No. 14-1538

Title:	Life Technologies Corporation, et al., Petitioners v. Promega Corporation
Docketed:	June 29, 2015
Linked with 14A1075	
Lower Ct:	United States Court of Appeals for the Federal Circuit
Case Nos.:	(2013-1011, 2013-1029, 2013-1376)
Decision Date:	December 15, 2014
Rehearing Denied:	February 26, 2015

Questions Presented

---Date---	------Proceedings and Orders----------
Apr 16 2015	Application (14A1075) to extend the time to file a petition for a writ of certiorari from May 27, 2015 to June 26, 2015, submitted to The Chief Justice.
Apr 22 2015	Application (14A1075) granted by The Chief Justice extending the time to file until June 26, 2015.
Jun 26 2015	Petition for a writ of certiorari filed. (Response due July 29, 2015)
Jul 13 2015	Consent to the filing of amicus curiae briefs, in support of either party or of neither party, received from counsel for petitioners.
Jul 17 2015	Order extending time to file response to petition to and including August 26, 2015.
Jul 28 2015	Brief amicus curiae of Agilent Technologies, Inc. filed.
Jul 29 2015	Brief amicus curiae of Professor Timothy R. Holbrook filed.
Aug 26 2015	Brief of respondent Promega Corporation in opposition filed.
Sep 8 2015	Reply of petitioners Life Technologies Corporation, et al. filed. (Distributed)
Sep 9 2015	DISTRIBUTED for Conference of September 28, 2015.
Oct 5 2015	The Solicitor General is invited to file a brief in this case expressing the views of the United States.
May 11 2016	Brief amicus curiae of United States filed.
May 27 2016	Supplemental brief of petitioners Life Technologies Corporation, et al. filed.
May 31 2016	DISTRIBUTED for Conference of June 16, 2016.
May 31 2016	Supplemental brief of respondent Promega Corporation filed. (Distributed)
Jun 20 2016	DISTRIBUTED for Conference of June 23, 2016.
Jun 27 2016	Petition GRANTED limited to Question 2 presented by the petition.
Jul 26 2016	The time to file the joint appendix and petitioners' brief on the merits is extended to and including September 1, 2016.
Jul 26 2016	The time to file respondent's brief on the merits is extended to and including October 24, 2016.
Aug 4 2016	Consent to the filing of amicus curiae briefs, in support of either party or of neither party, received from counsel for Life Technologies Corporation, Invitrogen IP Holdings, Inc., and Applied Biosystems, LLC.
Sep 1 2016	Joint appendix filed. (Statement of costs filed.)

Sep 1 2016	Brief of petitioners Life Technologies Corporation, et al. filed.
Sep 7 2016	Brief amicus curiae of Intellectual Property Owners Association in support of neither party filed.
Sep 7 2016	Brief amicus curiae of Agilent Technologies, Inc. filed.
Sep 8 2016	Brief amicus curiae of United States filed.
Sep 8 2016	Brief amici curiae of Bundesverband der Deutschen Industrie e.V., et al. filed.
Sep 8 2016	Brief amicus curiae of American Intellectual Property Law Association in support of neither party filed.
Sep 8 2016	Brief amici curiae of Intellectual Property Professors filed.
Oct 21 2016	SET FOR ARGUMENT on Tuesday, December 6, 2016.
Oct 24 2016	Brief of respondent Promega Corporation filed.
Oct 25 2016	Brief amicus curiae of New York Intellectual Property Law Association filed. (Distributed)
Oct 26 2016	CIRCULATED.
Oct 31 2016	Brief amicus curiae of Wisconsin Alumni Research Foundation filed. (Distributed)
Nov 1 2016	Record requested from the U.S.C.A. Federal Circuit.
Nov 4 2016	Record received from the U.S.C.A. Federal Circuit is electronic and located on PACER. Also received are Confidential documents that are also electronic.
Nov 7 2016	Motion of the Acting Solicitor General out of time for leave to participate in oral argument as amicus curiae and for divided argument filed.
Nov 10 2016	Record received from the U.S.D.C. Western Dist. of Wisconsin is electronic.
Nov 22 2016	Motion of the Acting Solicitor General for leave to participate in oral argument as amicus curiae and for divided argument GRANTED. out of time
Nov 22 2016	Reply of petitioners Life Technologies Corporation, et al. filed. (Distributed)
Dec 6 2016	Argued. For petitioners: Carter G. Phillips, Washington, D. C.; and Zachary D. Tripp, Assistant to the Solicitor General, Department of Justice, Washington, D. C. (for United States, as amicus curiae.) For respondents: Seth P. Waxman, Washington, D. C.
Jan 4 2017	Letter from Clerk of Court to counsel of record noting that the Chief Justice will not continue to participate in this case.
Feb 22 2017	Judgment REVERSED and case REMANDED. Sotomayor, J., delivered the opinion of the Court, in which Kennedy, Ginsburg, Breyer, and Kagan, JJ., joined, and in which Thomas and Alito, JJ., joined as to all but Part II-C. Alito, J., filed an opinion concurring in part and concurring in the judgment, in which Thomas, J., joined. Roberts, C. J., took no part in the decision of the case.
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14-1538

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No. 14-

IN THE

Supreme Court of the United States

LIFE TECHNOLOGIES CORPORATION; INVITROGEN IP HOLDINGS, INC.; APPLIED BIOSYSTEMS, LLC,

Petitioners,

v.

PROMEGA CORPORATION,

Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

PETITION FOR A WRIT OF CERTIORARI

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June 26, 2015

QUESTIONS PRESENTED

35 U.S.C. § 271(f)(1) provides that it is an act of patent infringement to "suppl[y] . . . in or from the United States all or a substantial portion of the components of a patented invention, . . . in such manner as to actively induce the combination of such components outside the United States." Despite this Court's clear dictate that section 271(f) should be construed narrowly, *Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437 (2007), the Federal Circuit held that Life Technologies is liable for patent infringement for worldwide sales of a multi-component kit made abroad because just a single, commodity component of the kit was shipped from its U.S. facility to its own foreign facility. The questions presented are:

1. Whether the Federal Circuit erred in holding that a single entity can "actively induce" itself to infringe a patent under 35 U.S.C. § 271(f)(1).

2. Whether the Federal Circuit erred in holding that supplying a single, commodity component of a multi-component invention from the United States is an infringing act under 35 U.S.C. § 271(f)(1), exposing the manufacturer to liability for all worldwide sales.

PARTIES TO THE PROCEEDINGS

Petitioners, Life Technologies Corporation, Invitrogen IP Holdings, Inc., and Applied Biosystems, LLC, were the defendants-appellants below.

Respondent, Promega Corporation, was the plaintiff-cross-appellant below.

RULE 29.6 STATEMENT

Applied Biosystems, LLC, and Invitrogen IP Holdings, Inc., are wholly-owned subsidiaries of Life Technologies Corporation. Life Technologies Corporation is an indirect wholly-owned subsidiary of Thermo Fisher Scientific Inc. There is no other publicly held corporation owning 10% or more of the stock of petitioners.

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PETITION FOR A WRIT OF CERTIORARI

Petitioners Life Technologies Corporation, Invitrogen IP Holdings, Inc., and Applied Biosystems, LLC (collectively, "Life Technologies"), respectfully petition for a writ of certiorari to review the judgment of the United States Court of Appeals for the Federal Circuit.

OPINIONS BELOW

The Federal Circuit's opinion is reported at *Promega Corp.* v. *Life Technologies Corp.*, 773 F.3d 1338 (Fed. Cir. 2014), and is reproduced at Petition Appendix (Pet. App.) 1a–43a. The unpublished order denying the petition for rehearing and rehearing en banc is reproduced at Pet. App. 67a–68a. The district court's unpublished opinion is reproduced at Pet. App. 44a–66a.

JURISDICTION

The Federal Circuit entered its judgment on December 15, 2014, and denied a timely-filed petition for rehearing and rehearing en banc by order dated February 26, 2015. On April 22, 2015, Chief Justice Roberts extended the time within which to file a petition for a writ of certiorari to and including June 26, 2015. This Court has jurisdiction over this petition pursuant to 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS

35 U.S.C. § 271(f) provides:

> (1) Whoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are

uncombined in whole or in part, in such manner as to actively induce the combination of such components outside the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

(2) Whoever without authority supplies or causes to be supplied in or from the United States any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

INTRODUCTION

In the decision below, a sharply divided panel of the Federal Circuit broadly expanded what is supposed to be a narrow exception to the rule against extraterritorial application of United States patent law. The court held that the patentee was entitled to infringement damages based on Life Technologies' *worldwide* sales of genetic testing kits, even though the only connection between Life Technologies' foreign sales and the United States was that Life Technologies shipped a single, commodity component of the kits from its facility in the United States to its own manufacturing facility abroad. The Federal Circuit's decision was based on two fundamental errors in its interpretation of 35 U.S.C. § 271(f)(1).

First, the court held that a single, integrated entity can "actively induce" itself to infringe a patent by shipping a component to its own overseas facilities. Second, the court held that a single, commodity component of a multi-component invention can be "a substantial portion of the components." Each of these serious errors warrants this Court's review. The combination dangerously expands the extraterritorial reach of U.S. patent law, directly contrary to this Court's explicit instruction that § 271(f) should be narrowly interpreted in light of the presumption against extraterritoriality.

First, the Federal Circuit's holding that a single entity can "induce" itself to infringe misreads the plain text of the statute and ignores this Court's precedents. The ordinary meaning of "induce" is to "influence" or "persuade"; it is action inherently directed at a third party. And this Court has interpreted "induce" in 35 U.S.C. § 271(b) to have precisely this meaning. *Commil USA LLC* v. *Cisco Sys., Inc.*, 135 S. Ct. 1920, 1924 (2015); *Global-Tech Appliances, Inc.* v. *SEB S.A.*, 131 S. Ct. 2060, 2065 (2011). Yet the Federal Circuit held that in § 271(f), "induce" has the different and much broader meaning of "cause," and that a single party can "cause" itself to infringe by shipping a component to itself. This interpretation is contrary to both the canon that the same word in the same statute should be interpreted in the same way, and to legislative history explicitly stating that the term "induce" in § 271(f) was drawn from the existing § 271(b).

Second, the Federal Circuit's holding that just a single, commodity component can be a "substantial portion of the components" of the invention if it is in some sense "important," suffers from the same serious flaws. The text and structure of the statute

make clear that "a substantial portion" in § 271(f)(1) refers to the quantity, not the subjective importance or relative significance, of the components supplied. The text of § 271(f)(1) itself is plain that no fewer than "a substantial portion" of the invention's components must be supplied. A further textual indication is found in § 271(f)(2), which provides a basis for infringement liability for the supply of a single component so long as it is "especially made or especially adapted for use in the invention and not a staple article or commodity of commerce." While § 271(f)(2) consistently uses the term "component" in the singular, § 271(f)(1) consistently uses the term "components" in the plural. Read together, it is clear that Congress did *not* intend to impose liability for the supply of a single component that is merely an off-the-shelf "staple article or commodity of commerce." The Federal Circuit's holding also disregards this Court's guidance that § 271(f)(1) and § 271(f)(2) "differ, among other things, on the quantity of components that must be 'supplied from the United States' for liability to attach." *Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437, 454 n.16 (2007) (alteration and omission omitted).

Furthermore, both of the Federal Circuit's interpretations run afoul of the "presumption that United States law governs domestically but does not rule the world," a presumption that "applies with particular force in patent law." *Id.* at 454–55. Far from following this Court's direction to "resist giving . . . § 271(f) an expansive interpretation," the Federal Circuit broadened the statute's language to maximize its extraterritorial reach. *Id.* at 442.

Each of the Federal Circuit's extraterritorial expansions of § 271(f)(1) is highly problematic. But the combined effect of both is perilous to the business

community. Both single, integrated companies and domestic manufacturers of components now need to account for the potentially crushing burden of U.S. patent infringement liability for worldwide sales, based on the supply of *any* individual component, however common and useful for non-infringing purposes. Furthermore, given the exclusive jurisdiction of the Federal Circuit over U.S. patent law, only this Court can correct the Federal Circuit's misinterpretation of the statute and eliminate the sweeping liability that the ruling creates for manufacturers and component suppliers across a broad array of industries. This Court should grant the petition to rein in the Federal Circuit's overbroad reading of the statute, and to reassert that § 271(f)(1) is merely a narrow exception to the presumption against extraterritorial application of patent law.

STATEMENT OF THE CASE

Life Technologies manufactures genetic testing kits, which generate DNA profiles. Pet. App. 8a. These kits are "useful in many fields," *id.* at 3a; for example, they are "used by law enforcement agencies for forensic identification, and by clinical and research institutions for purposes such as analyzing cancer cells," *id.* at 8a. As the Federal Circuit explained, "[t]he kits contain a number of components, including: (1) a primer mix; (2) *Taq* polymerase; (3) PCR reaction mix including nucleotides; (4) a buffer solution; and (5) control DNA." *Id.*

Together, these components are capable of copying, or "amplif[ying]," the DNA being studied, which is necessary "in order to obtain a detectable amount of DNA for analysis." Pet. App. 3a. The primers "mark[] the start and finish" of the area to be copied. *Id.* The nucleotides are the building blocks used to

form the copies. The buffer solution maintains the conditions needed for the copying to occur, and the control DNA is used to verify that the copying process has occurred correctly. Finally, the "*Taq* polymerase is an enzyme used to amplify the DNA sequences in order to obtain enough replicated sample for testing." *Id.* at 34a. It is undisputed that *Taq* polymerase is not especially made or especially adapted for use in the invention at issue. *Id.* at 30a n.14. Rather, it is a standard enzyme that has been widely used for decades in a large variety of applications that require copying DNA sequences.

The Federal Circuit observed that Life Technologies "manufactures one component of its kits in the United States, the *Taq* polymerase, which it ships overseas to a LifeTech manufacturing facility in the United Kingdom." Pet. App. 8a. The kits are manufactured in the United Kingdom, and sold worldwide. *Id.*

Promega Corporation ("Promega") licensed a patent on technology for replicating DNA.[1] Pet. App. 7a. Life Technologies, in turn, had a license from Promega to use the patented technology for certain applications. *Id.* at 9a & n.3. Promega sued Life Technologies in 2010, alleging that it had infringed the patent by selling its kits into unlicensed fields, and sought damages for worldwide sales. *Id.* at 9a. At trial, the jury returned a verdict for Promega, found that Life Technologies' infringement was

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[1] Promega sued Life Technologies for infringement of five patents that it owned or licensed. The Federal Circuit held that four of those patents were invalid on the ground of nonenablement. Pet. App. 13a-22a. The holdings at issue here involve the remaining patent, No. RE 37,984 (the "Tautz patent"), of which Promega was a non-exclusive licensee in some fields and an exclusive licensee in others. *See id.* at 5a.

willful, and awarded damages for "all of LifeTech's worldwide sales." *Id.* at 11a.

The district court then granted judgment as a matter of law to Life Technologies, holding that Promega had failed to present sufficient evidence to sustain a jury verdict under § 271(f)(1), the only provision that could reach Life Technologies' worldwide sales of kits manufactured abroad. Pet. App. 51a–63a. The district court held that § 271(f)(1) did not apply for two reasons.

First, "the parties agree that plaintiff did not present any evidence at trial that defendants induced another party to combine any components outside the United States in an infringing manner." Pet. App. 60a. Instead, "defendants did all the combining themselves." *Id.* The court held that "the term 'actively induce' requires the involvement of a third party," reasoning that "[b]ecause the ordinary meaning of the word 'induce' is to influence or persuade, it makes little sense in common parlance to say that someone 'induced himself' to perform a particular action." *Id.* (citation omitted). The court also relied on the canon that "the same phrase in the same statute means the same thing," *id.* at 61a, noting that the Federal Circuit has interpreted the same term in § 271(b) to mean "encouraging another's infringement." *Id.* at 60a. The court rejected Promega's argument that this interpretation would create an "undesirable loophole," remarking that "the Supreme Court has admonished lower courts not to engage in 'dynamic judicial interpretation' of § 271(f) in order to avoid perceived loopholes." *Id.* at 61a–62a (quoting *Microsoft*, 550 U.S. at 457). The court concluded that it could not "accept plaintiff's interpretation of § 271(f)(1) in the face of all the

reasons not to," including the statutory text and Supreme Court precedent. *Id.* at 63a.

Second, the district court ruled that Life Technologies had not infringed under § 271(f)(1) because the evidence "showed at most that *one* component of all the accused products, a polymerase, was supplied from the United States." Pet. App. 51a. The court held that § 271(f)(1)'s requirement that "all or a substantial portion" of the components be supplied from the United States does not embrace merely a single component. *Id.* at 54a–57a. Section 271(f)(1), the court ruled, could not plausibly be interpreted to reach a single component "when viewed in conjunction with . . . § 271(f)(2)," which "extends to 'any component' of the invention" supplied from the U.S., but requires that the component be "especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use." *Id.* at 54a–55a.

The court further observed that this Court's decision in *Microsoft* supported its ruling for two reasons. First, *Microsoft* stated that § 271(f)(1) and (f)(2) "'differ, among other things, on the quantity of components that must be supplied.'" Pet. App. 55a–56a (alteration omitted) (quoting *Microsoft*, 550 U.S. at 454 n.16). Second, this Court "concluded that it was improper to use policy concerns about 'loopholes' to justify broad interpretations of the patent statute," particularly given "the presumption that 'our patent law operates only domestically and does not extend to foreign activities.'" *Id.* at 56a (quoting *Microsoft*, 550 U.S. at 455).

In a split decision, the Federal Circuit reversed, "disagree[ing] with the district court's reading of § 271(f)(1)." Pet. App. 23a. First, the majority held

that "no third party is required" to "actively induce" infringement under § 271(f)(1). *Id.* at 24a. The majority "acknowledge[d] that the word 'induce' can suggest that one is influencing or persuading 'another,'" but concluded that Congress intended the term to "encompass[] the more broad concept of 'to bring about, to cause'" an activity. *Id.* The court rejected the argument that the term "actively induce" should be given the same meaning in § 271(f)(1) as in § 271(b). It reasoned that "a single party who causes the infringement of a patent" under § 271(b) "would already be strictly liable for infringement under § 271(a)," and that "because § 271(f)(1) lacks such a strict liability companion statute, comparisons to § 271(b) are of limited value." *Id.* at 27a. The court also held that the presumption against extra-territoriality did not apply because "in this instance, Congress' chosen language assigns liability to LifeTech's conduct within the United States, based on its extraterritorial effect." *Id.* at 27a n.10.

Second, the Federal Circuit held that "a party may be liable under § 271(f)(1) for supplying or causing to be supplied a single component for combination outside the United States." Pet. App. 28a. The court concluded that the relevant "dictionary definition of 'substantial' is 'important' or 'essential,'" and thus "the ordinary meaning of 'substantial portion' suggests that a single important or essential component can be a 'substantial portion of the components' of a patented invention." *Id.* at 28a–29a.

The court further reasoned "the use of 'component' in § 271(f)(2) does not control the meaning of 'components' in § 271(f)(1)" because "these two subsections employ the terms in different contexts"; § 271(f)(2) focuses on whether a component is "especially made or especially adapted" for infringing

use, while § 271(f)(1) focuses on whether components are "substantial." Pet. App. 30a. The Federal Circuit disregarded *Microsoft*'s contrary statement as dicta, concluding that "[i]n the absence of express guidance by the Supreme Court, we will not contravene the ordinary reading of the statute and categorically exclude the 'supply' of a single component of a patented invention from the scope of §271(f)(1)." *Id.* at 33a. Finally, the majority held that *Taq* polymerase is a "substantial portion of the components of the patented invention," even though it is only one commodity component out of the five in the kit, because "[w]ithout *Taq* polymerase, the genetic testing kit recited in the Tautz patent would be inoperable." *Id.* at 34a.

Chief Judge Prost dissented. The dissent interpreted "§ 271(f)(1) and its requirement of active inducement to necessarily mean inducement of *another*," noting that the Federal Circuit has "never before held—in the context of either § 271(f) or § 271(b)—that a party can induce itself to infringe." Pet. App. 39a. The majority's interpretation, the dissent explained, "runs counter to unambiguous Supreme Court precedent" holding that "inducement liability requires a third party" under § 271(b). *Id.* And the legislative history showed that "the term 'actively induce' in § 271(f)(1) was expressly 'drawn from existing subsection 271(b),'" giving "special force" to the interpretive canon that "identical words and phrases within the same statute should normally be given the same meaning." *Id.* at 41a. Finally, the dissent explained that "the Supreme Court has cautioned against employing a policy-oriented approach to judicial decision making where it would cause law to have extraterritorial application," and that the majority's interpretation was contrary to this

presumption against extraterritoriality. *Id.* at 42a–43a. The dissent concluded that it could not accept the majority's interpretation of the statute "[b]ecause we are limited by the language of the statute, Supreme Court precedent, and our own precedent." *Id.* at 43a. Because the dissent would have found Life Technologies was "not liable under § 271(f)(1) for active inducement," it did not address the majority's "single component" interpretation. *Id.* at 39a n.1. On February 26, 2015, the Federal Circuit denied a petition for rehearing en banc. *Id.* at 68a.

REASONS FOR GRANTING THE PETITION

There are two compelling grounds for granting certiorari in this case. First, the Federal Circuit's holding that a single party can "actively induce" itself to infringe under § 271(f)(1) is contrary to the plain meaning of the statutory text, and to this Court's precedent interpreting the same language in § 271(b). Second, the Federal Circuit's holding that a single, commodity component can be a "substantial portion of the components" under § 271(f)(1) is likewise contrary to the text and structure of the statute and ignores the distinctive language and requirements for the supply of a single component under § 271(f)(2). Each of these rulings warrants this Court's review to correct the improper expansion of the extraterritorial reach of U.S. patent law. The combined effect of both rulings makes immediate review imperative.

In *Microsoft* v. *AT&T*, this Court instructed other courts to "resist giving . . . § 271(f) an expansive interpretation," applying the presumption that United States patent law "governs domestically but does not rule the world." 550 U.S. at 442, 454. The Federal Circuit's interpretation, which stretches the

statute far beyond its text to close what it perceived as "loopholes" in the extraterritorial reach of U.S. patent law, disregards this Court's instruction, and intrudes on policy issues that should be left to Congress. The Federal Circuit's ruling makes *worldwide* U.S. patent infringement liability hinge on the decision of a foreign multinational corporation or manufacturer to source its commodity supplies from the United States. Nothing in the language, structure, or policy of § 271(f) suggests that Congress meant, on the basis of so little U.S. conduct, to intrude into the policy of foreign governments regarding the availability of useful products abroad. And there is no reason to believe Congress chose to put domestic manufacturers of commodity supplies at such a dramatic disadvantage vis-à-vis their foreign competitors. This Court should grant the petition.

I. THE FEDERAL CIRCUIT'S HOLDING THAT A SINGLE ENTITY CAN "ACTIVELY INDUCE" ITSELF TO INFRINGE UNDER SECTION 271(f)(1) CONFLICTS WITH THE STATUTORY TEXT AND THIS COURT'S PRECEDENTS.

This Court should review the Federal Circuit's conclusion that a single, integrated business can induce *itself* to infringe when it ships a component from the United States to one of its own facilities abroad for combination with other components to make a U.S. patented invention. Pet. App. 24a–27a. This startling redefinition of the phrase "actively induce" is contrary to the text and structure of the Patent Act, this Court's precedents, and the presumption against extraterritoriality.

1. Section 271(f)(1) provides liability for "actively induc[ing]" the combination of components of a

patented invention "outside of the United States in a manner that would infringe the patent if such combination occurred within the United States." 35 U.S.C. § 271(f)(1). The language "actively induce" appears verbatim in the general inducement provision of the statute, § 271(b). The legislative history confirms the connection embodied in the language: "The term 'actively induce'" in section 271(f)(1) was "drawn from existing subsection 271(b) of the patent law, which provides that whoever actively induces patent infringement is liable as an infringer." 130 Cong. Rec. 28069, 28069 (1984).

In *Global-Tech Appliances, Inc.* v. *SEB S.A.*, 131 S. Ct. 2060 (2011), this Court interpreted the term "actively induce" in § 271(b) to mean "'[t]o lead on; to influence; to prevail on; to move by persuasion or influence.'" *Id.* at 2065 (alteration in original) (quoting *Webster's New International Dictionary* 1269 (2d ed. 1945)). As the Federal Circuit dissent noted here, this Court has adopted the same interpretation of inducement "in the analogous copyright context," defining the term "as 'entic[ing] or persuad[ing] *another*' to infringe." Pet. App. 39a–40a (alterations in original) (quoting *Metro-Goldwyn-Mayer Studios Inc.* v. *Grokster, Ltd.*, 545 U.S. 913, 935 (2005)); see *Sony Corp. of Am.* v. *Universal City Studios, Inc.*, 464 U.S. 417, 439 (1984) (drawing analogy between patent and copyright cases "because of the historic kinship between patent law and copyright law").

As this Court understood, these verbs do not describe actions directed toward oneself; one does not lead oneself on or influence oneself or prevail upon or move oneself by persuasion; these are actions that one directs towards another. *Global-Tech*, 131 S. Ct. at 265 (section 271(b) "may require merely that the

inducer *lead another* to engage in conduct that amounts to infringement" or "may also be read to mean that the inducer must *persuade another* to engage in conduct that the inducer knows is infringement") (emphases added); *Grokster*, 545 U.S. at 935 (defining inducement as "'entic[ing] or persuad[ing] *another*' to infringe") (emphasis added); see *id.* at 936 (noting that "liability for inducement" can be found under the Patent Act "where one 'actively and knowingly aid[s] and abet[s] another's direct infringement'" (alterations in original)). Indeed, as the district court here remarked, it "makes little sense in common parlance to say that someone 'induced himself.'" Pet. App. 60a. A single, integrated entity simply takes action; it does not induce itself to act. And earlier this Term, this Court once again remarked that "inducement of *others* to commit infringement" is a distinct form of injury from direct infringement. *Commil*, 135 S. Ct. at 1924 (emphasis added). Thus, under the definition of "induce" that this Court has adopted, "inducement liability requires a third party." Pet. App. 39a (Prost, C.J., dissenting).

The majority here "acknowledge[d] that the word 'induce' can suggest that one is influencing or persuading 'another.'" Pet. App. 24a. Yet the majority rejected that interpretation of "induce" in § 271(f), instead interpreting the term to "encompass[] the more broad concept of 'to bring about, to cause.'" *Id.* The court reasoned that "[h]ad Congress wanted to limit 'induce' to actions completed by two separate parties, it could easily have done so by assigning liability only where one party actively induced *another*." *Id.* But that reasoning assumes the conclusion, namely, that the

word "induce" does not itself refer to action directed towards another. Because the word "induce" means influencing *another*, it would be redundant to write the word "another" into the text of the statute. Congress avoided precisely that redundancy when it wrote § 271(b), the general inducement section of the statute.

Indeed, the Federal Circuit has consistently interpreted the term "induce" in § 271(b) to require the defendant to spur action by another, even though the term "another" does not appear after "induce." Pet. App. 40a (Prost, C.J., dissenting); see *DSU Med. Corp.* v. *JMS Co.*, 471 F.3d 1293, 1305–06 (Fed. Cir. 2006) (en banc) (holding that inducement requires proof "of culpable conduct, directed to encouraging *another*'s infringement") (emphasis added); *Lucent Techs., Inc.* v. *Gateway, Inc.*, 580 F.3d 1301, 1322 (Fed. Cir. 2009) (same). It nonetheless concluded that Congress used the same word to mean something entirely different when it wrote § 271(f)(1), reasoning that inducement under § 271(b) is more limited, "since a single party who causes the infringement of a patent would already be strictly liable for infringement under § 271(a)." Pet. App. 27a. But this approach is flatly contrary to a basic canon of statutory construction: "identical words and phrases within the same statute should normally be given the same meaning." *Powerex Corp.* v. *Reliant Energy Servs., Inc.*, 551 U.S. 224, 232 (2007); see *Global-Tech*, 131 S. Ct. at 2068 (noting that it "would . . . be strange" to give different meaning to the same language in different subsections of § 271). Moreover, as the dissent pointed out, this canon has "special force here" because "the term 'actively induce' in § 271(f)(1) was expressly 'drawn from

existing subsection 271(b).'" Pet. App. 41a (quoting 130 Cong. Rec. at 28,069).

The Federal Circuit's interpretation also misconstrues the relation of § 271(f) to this Court's decision in *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518 (1972). *Deepsouth* held that manufacturing all of the components of an infringing product in the U.S., and shipping them abroad to third-party foreign customers, where they could be assembled in less than an hour, was not infringement. *Id.* at 523–24, 525–26. In *Microsoft*, this Court concluded that "[s]ection 271(f) was a direct response" to *Deepsouth*, and that "[h]aving attended to the gap made evident in *Deepsouth*, Congress did not address other arguable gaps," which "our precedent leads us to leave in Congress' court." 550 U.S. at 457–58. Here, in stark contrast, the Federal Circuit reasoned that Congress was motivated by broad "policy goals" of "prevent[ing] copiers from avoiding United States patents by supplying components" for assembly abroad, and that, "to achieve these goals, Congress chose language for § 271(f)(1) broader than the particular facts of *Deepsouth*." Pet. App. 26a. As the dissent explained, this improperly "impute[s] from Congress' supposed intent to close the *Deepsouth* loophole a much broader legislative intent to close all loopholes related to extraterritorial liability," *id.* at 41a, directly contrary to this Court's reasoning in *Microsoft*.

2. The Federal Circuit's broad interpretation of § 271(f)(1) to advance the statute's supposed "policy goals" is also contrary to the presumption against extraterritoriality. The effect of the majority's ruling will be to expand dramatically the reach of U.S.

patent law over foreign sales. Any company that supplies a component from the U.S. to its foreign facilities will find itself at risk of *worldwide* patent infringement liability. This case illustrates the magnitude of the risks at stake—Promega was awarded $52 million in lost profits on worldwide kit sales, based on evidence that Life Technologies supplied just a single commodity component from the U.S.

This Court has previously explained that, because "§ 271(f) is an exception to the general rule that our patent law does not apply extraterritorially," courts should "resist giving the language in which Congress cast § 271(f) an expansive interpretation." *Microsoft*, 550 U.S. at 442; see *Morrison* v. *Nat'l Austl. Bank Ltd.*, 561 U.S. 247, 255, 265 (2010) (the presumption against extraterritoriality is overcome only if "there is the affirmative intention of the Congress clearly expressed to give a statute extraterritorial effect," and where a statute provides "for some extraterritorial application, the presumption against extraterritoriality operates to limit that provision to its terms").

Indeed,"[t]he presumption that United States law governs domestically but does not rule the world applies with particular force in patent law." *Microsoft*, 550 U.S. at 454–55. This "traditional understanding that our patent law operates only domestically and does not extend to foreign activities is embedded in the Patent Act itself, which provides that a patent confers exclusive rights in an invention within the United States." *Id.* at 455 (citation, alterations, and quotations omitted) (citing 35 U.S.C. § 154(a)(1)); see *Brown* v. *Duchesne*, 60 U.S. (19 How.) 183, 195 (1856) (Patent law "is domestic in its

character, and necessarily confined within the limits of the United States. It confers no power on Congress to regulate commerce, or the vehicles of commerce, which belong to a foreign nation . . . ."). The United States does not exercise patent control over foreign markets, and it "correspondingly reject[s] the claims of others to such control over our markets." *Microsoft*, 550 U.S. at 455 (quoting *Deepsouth*, 406 U.S. at 531). The remedy for infringement that occurs abroad lies in "obtaining and enforcing foreign patents," *id.* at 456, not in interpreting United States patent law to "rule the world," *id.* at 454.

While § 271(f) intrudes U.S. patent law into foreign markets to a limited extent, it did not otherwise alter the fundamental principle that U.S. patent law "does not, and was not intended to, operate beyond the limits of the United States." *Id.* at 455 (quotations and alterations omitted) (quoting *Deepsouth*, 406 U.S. at 531). Therefore, as this Court has emphasized, the market exclusivity bestowed by a patent should not be expanded extraterritorially based on "mere inference from ambiguous statutory language." *Deepsouth*, 406 U.S. at 531. "Any doubt" that particular "conduct falls outside § 271(f)'s compass would be resolved by the presumption against extraterritoriality." *Microsoft*, 550 U.S. at 454. The Federal Circuit's expansive interpretation of § 271(f)(1) is flatly inconsistent with the presumption and with this Court's holding in *Microsoft*.

The Federal Circuit suggested that the presumption is inapplicable because "Congress' chosen language assigns liability to LifeTech's conduct within the United States, based on its extraterritorial effect." Pet. App. 27a n.10. But *Microsoft* rejected the argument that "the presumption holds no sway

here given that § 271(f), by its terms, applies only to domestic conduct, *i.e.*, to the supply of a patented invention's components 'from the United States.'" 550 U.S. at 456. To the contrary, the Court held that the presumption "tugs strongly against" a broad construction of § 271(f), and that "dynamic judicial interpretation" of the provision is impermissible. *Id.* at 455, 457. As this Court explained in *Morrison*, "it is a rare case of prohibited extraterritorial application that lacks *all* contact with the territory of the United States," and "the presumption against extraterritorial application would be a craven watchdog indeed if it retreated to its kennel whenever *some* domestic activity is involved in the case." 561 U.S. at 266. The point of the presumption against extraterritorial application of U.S. patent law is to prevent U.S. law from intruding on the decisions of foreign governments regarding their consumers' access to useful products. The ruling below inhibits the access of foreign markets to Life Technologies' kits, or, at a minimum, increases dramatically the cost of such access.

Here, as in *Microsoft*, the application of § 271(f) to Life Technologies is plainly extraterritorial, because it depends upon the combination of components "outside of the United States in a manner that would infringe the patent if such combination occurred within the United States." 35 U.S.C. § 271(f)(1). And as in *Microsoft*, the Supreme "Court's use of the presumption contrasts sharply with the Federal Circuit's expansive interpretations of § 271(f)." Sean Fernandes, *Microsoft Corp. v. AT&T: A Welcome Return to Patent Law's Tradition of Territoriality*, 23 Berkeley Tech. L.J. 75, 105 (2008). Review should be

granted to rein in the Federal Circuit's extraterritorial expansion of U.S. patent law.

3. This Court's review is also warranted due to the importance of the issue. The Federal Circuit's expansion of the extraterritorial scope of patent law will distort the incentives for multinational companies to supply components from facilities in the United States, "creat[ing] perverse incentives to relocate operations abroad to escape liability." *Id.* at 102. There is no dispute that if Life Technologies had supplied the *Taq* polymerase to its United Kingdom factory from a Life Technologies facility outside of the United States, foreign sales of the genetic testing kits would lie beyond the reach of U.S. patent law. Thus, under the Federal Circuit's broad interpretation, § 271(f) "discriminates against manufacturers with operations within the United States, thereby encouraging them to move their operations offshore," and potentially causing "long-term economic damage." *Id.* at 101–02. There is no reason to believe that Congress intended to create these undesirable results by using § 271(f)(1) to shape how single, integrated companies choose to source materials for foreign manufacture and sale.

In addition, because the Federal Circuit has exclusive jurisdiction over patent appeals, its rulings have an immediate nationwide impact. 28 U.S.C. § 1295. The Federal Circuit's exclusive jurisdiction means that guidance from other circuits will not be forthcoming. And because the Federal Circuit adopted its interpretation of § 271(f)(1) in a precedential opinion, which it declined to review en banc, that interpretation will remain the law of the land unless this Court intervenes. Review now should be granted to ensure that the statute is

correctly applied and to avoid the economic dislocations the decision below otherwise will impose.

II. THE FEDERAL CIRCUIT'S HOLDING THAT LIABILITY CAN BE IMPOSED UNDER SECTION 271(f)(1) FOR THE SUPPLY OF A SINGLE, COMMODITY COMPONENT CONFLICTS WITH THE STATUTORY TEXT AND THE PRESUMPTION AGAINST EXTRATERRITORIALITY.

Certiorari is also warranted to review the Federal Circuit's holding that § 271(f)(1) allows liability for foreign sales based on the supply from the United States of a single, commodity component. Section 271(f)(1) provides that the defendant must have supplied "all or a substantial portion of the components of a patented invention" from the U.S. The Federal Circuit read this to mean that liability for foreign sales is triggered when the defendant has supplied *any individual component* of the invention without which the accused product would be inoperable. Pet. App. 28a–35a.

As with its interpretation of "actively induce," the Federal Circuit's interpretation of "a substantial portion" misinterprets the statutory text and structure, and is contrary to the presumption against extraterritoriality. This holding represents another expansive interpretation of § 271(f)(1) that results in U.S. patent law intruding on foreign markets. The Federal Circuit has placed any domestic supplier of a commodity component at risk of infringement liability for its customer's foreign sales. This Court should review this important issue.

1. Textually, the Federal Circuit's broad interpretation of § 271(f)(1) does not withstand scrutiny.

The majority defined "substantial" in qualitative terms; according to the court, it means "important" or "essential." Pet. App. 28a (citing, *e.g.*, *Webster's Third New Int'l Dictionary* 2280 (2002); *XVII Oxford English Dictionary* 67 (2d ed. 1989) ("essential; material")). Accordingly, the Federal Circuit concluded that "the ordinary meaning of 'substantial portion' suggests that a single important or essential component can be a 'substantial portion of the components.'" *Id.* at 28a–29a. And, as the court later held, an essential component is nothing more than a component without which the invention "would be inoperable." *Id.* at 34a.

This holding is contrary to both the text of § 271(f)(1) itself, and to the broader statutory structure. First, the Federal Circuit's interpretation is contrary to the text of § 271(f)(1) because it is so broad as to render the "substantial portion" limitation all but meaningless. The phrase "substantial portion" modifies "components of a patented invention." 35 U.S.C. § 271(f)(1). A component of a patented invention will rarely, if ever, be unnecessary to the functioning of that invention. Indeed, if the product could operate in the same way without the component, it is questionable whether the supposed "component" would be a part of the "patented invention" at all. Here, for instance, the patented genetic testing kit would not operate correctly if any one of its five components were removed. See 5–6, *supra*. By reading "substantial portion of the components" of an invention to mean "any individual component necessary to the operation of the invention," the Federal Circuit has made virtually *every* component of a patented invention, by itself, a "substantial portion of the components" of

that invention. But if that were the purpose of the language, then Congress would have simply written "any component of a patented invention," rather than choosing "substantial portion" that so clearly suggests something narrower.

The way to make sense of the phrase "substantial portion" in this context is to read the word "substantial" in a quantitative sense, not in a qualitative sense. While the word "substantial" can mean "important," it is also commonly used to mean "large" or "ample" in quantity. See, *e.g.*, *The Random House College Dictionary* 1310 (1982) ("of ample or considerable amount, quantity, size, etc."); *Webster's Third New International Dictionary* 2280 (1981) ("abundant; plentiful" (capitalization omitted)); *Webster's New Twentieth Century Dictionary* 1817 (2d ed. 1981) ("of considerable size or amount; large"); *The Pocket Oxford Dictionary of Current English* 750 (7th ed. 1984) ("of considerable amount"). And that is clearly the way the statute uses the word. In § 271(f)(1), the term "substantial portion" follows the quantitative term "all," in the phrase "all or a substantial portion of the components." 35 U.S.C. § 271(f)(1). When paired with "all" in this manner, "substantial portion" naturally means a portion that is "large" or "considerable" in quantity, not a portion that is qualitatively "important."

Second, this interpretation becomes particularly compelling when the structure of the statute is considered. In § 271(f)(2), Congress expressly determined when the domestic supply of a single component of a patented invention should be the basis for infringement liability for foreign sales. It provided that the supply of "*any* component of a patented invention" can be the basis for liability, but

only when the component "is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use"—a limitation that is absent from § 271(f)(1). 35 U.S.C. § 271(f)(2) (emphasis added). The fact that Congress used the phrase "any component" in § 271(f)(2), and then limited liability to the provision of a specialized component, is a strong reason to reject the Federal Circuit's re-writing of § 271(f)(1) as if it, too, used the phrase "any component."

Section 271(f)(1) also consistently refers to "components" in the plural, for instance providing for liability "where *such components are uncombined* in whole or in part," and are supplied to "induce the combination of *such components*." *Id.* § 271(f)(1). In marked contrast, § 271(f)(2) consistently refers to "component" in the singular, using language that is otherwise parallel to § 271(f)(1). For instance, § 271(f)(2) provides for liability "where *such component is uncombined* in whole or in part" and is supplied "intending that *such component* will be combined." *Id.* § 271(f)(2).

These differences in the language of § 271(f)(1) and (f)(2) are all the more revealing because the two subsections were drafted together, and added to the Patent Act as part of the same bill. 130 Cong. Rec. at 28069. Under these circumstances, the "differing language in the two subsections" should not be "ascribe[d] . . . to a simple mistake in draftsmanship" and given "the same meaning in each." *Russello* v. *United States*, 464 U.S. 16, 23 (1983). To the contrary, when § 271(f)(1) and (f)(2) are read side by side, it is clear that Congress chose not to expose domestic suppliers of a single component to liability

for foreign sales, so long as that component is a "staple article or commodity of commerce" with a "substantial noninfringing use." 35 U.S.C. § 271(f)(2).

The Federal Circuit eliminated this limitation, reasoning that the language of § 271(f)(2) should not inform its interpretation of § 271(f)(1) because "these two subsections employ the terms in different contexts." Pet. App. 30a. "The focus of the infringement inquiry under § 271(f)(1) is whether one or more components supplied by a party constitutes 'all or a substantial portion of the components of a patented invention . . . .'" *Id.* By contrast, according to the court, "the focus of the infringement inquiry under § 271(f)(2) is whether a party has supplied any component 'especially made or especially adapted for use in [a patented] invention'" that is not a "'staple article or commodity of commerce suitable for substantial noninfringing use.'" *Id.*

But these differing requirements under § 271(f)(1) and (f)(2) only further strengthen the implication that Congress intended the phrase "all or a substantial portion of the components" in (f)(1) to have a different meaning than the phrase "any component" in (f)(2). Under the Federal Circuit's interpretation, any component of an invention will constitute "a substantial portion of the components" if it is "important" to the invention. Pet. App. 34a. But every component that is "especially made or especially adapted for use" in an invention within the meaning of (f)(2) would qualify as an "important" component under the Federal Circuit's interpretation of (f)(1). See 22–23, *supra*. Thus, interpreting (f)(1) to provide liability for the supply of a single "important" component is a clear misconstruction of the statutory text that trivializes (f)(2).

The Federal Circuit's interpretation is also contrary to this Court's analysis in *Microsoft*. That decision expressly noted that § 271(f)(1) and (f)(2) "differ, among other things, on the quantity of components that must be 'supplie[d] . . . from the United States' for liability to attach." 550 U.S. at 454 n.16 (alteration and omission in original). In the same vein, this Court noted that "§ 271(f)(1) applies to the supply abroad of 'all or a substantial portion of' a patented invention's components," while "§ 271(f)(2) applies to the export of *even a single component* if it is 'especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use.'" *Id.* at 458 n.18 (emphasis added). While *Microsoft* did not resolve the question presented, these remarks reflect that the natural reading of the text ascribes a *quantitative* meaning to the word "substantial" and preserves the specific standard Congress has established for the domestic supply of only a single component of a patented invention: (f)(1) applies only to a substantial quantity of components, and (f)(2) covers a single component, but only if it is especially adapted for infringement.

The Federal Circuit rejected this interpretation. It reasoned that it was "undermined by the very facts of *Microsoft*," because there the "alleged infringing activity under § 271(f) was a party's export of a single component of this two-component invention," but this Court did not resolve the case by holding "that liability under § 271(f)(1) requires the export of more than one component." Pet. App. 32a–33a (emphasis omitted). The parties in *Microsoft* did not argue that only a single component was involved, and the Court accordingly did not consider the issue; instead, it held

that the software in question was not a "component" at all, an analysis that did not "turn on whether [the Court] view[ed] the case under paragraph (1) or (2)." *Microsoft*, 550 U.S. at 454 n.16. Thus, while *Microsoft* did not resolve the specific issue presented here, the interpretation of § 271(f)(1) adopted by the Federal Circuit is in serious tension with the analysis this Court set forth.

2. Furthermore, just as with its interpretation of "actively induce," the Federal Circuit's interpretation of "a substantial portion" vastly broadens the extraterritorial reach of the statute, contrary to the presumption against extraterritoriality. Rather than limiting the reach of § 271(f) to instances where a supplied component is especially made for the invention, or where a large portion of the components are supplied, the Federal Circuit has expanded the reach of the statute to the supply of *any* single component that is deemed "important," which means nothing more than that the invention will not function without it. The standard is completely divorced from any way in which the component contributes to what is innovative about a product. A computer with an innovative chip that functions faster than previous chips cannot function without a plug or a battery. On the Federal Circuit's view, these stock "components" are "important" or "essential" to an invention that claims a computer with the innovative chip. Likewise, the *Taq* polymerase at issue here is a stock component that has been commonly used for decades to copy DNA; its function in the kit is in no way innovative. See 6, *supra*.

There is no "affirmative intention of the Congress clearly expressed" to give the statute such a broad

extraterritorial reach. *Morrison*, 561 U.S. at 255. To the contrary, as discussed above, there is express indication in § 271(f)(2) that Congress specifically chose not to interfere with the domestic supply of a single commodity component. And even if the statute could be considered ambiguous, courts cannot broaden the extraterritorial reach of a patent's market exclusivity based on "mere inference from ambiguous statutory language." *Deepsouth*, 406 U.S. at 531. The Federal Circuit should have resolved "[a]ny doubt" as to the reach of § 271(f) by applying "the presumption against extraterritoriality." *Microsoft*, 550 U.S. at 454. In again adopting "expansive interpretations of § 271(f)," Fernandes, *supra*, at 105, the Federal Circuit flatly disregarded this Court's instruction to apply the presumption and "resist giving the language in which Congress cast § 271(f) an expansive interpretation," *Microsoft*, 550 U.S. at 442.

3. Finally, review should be granted because of the profound importance of the question presented. The effects of the majority's misinterpretation of "substantial portion" mirror—and amplify—the effects of its misinterpretation of "actively induce." If this ruling is left in place, any domestic supplier of a commodity product used in patented inventions will be at risk of *worldwide* patent infringement liability for its sales. This would potentially include suits seeking injunctions that could disrupt the reliable flow of such commodity products to a foreign manufacturer, even where that country's law provides no basis for disrupting sales of the end product.

As a result, domestic manufacturers of all manner of products would face incentives to relocate their

operations offshore so that they could operate free of such risks and compete on a level playing field with foreign suppliers of commodity products. Thus, under the Federal Circuit's interpretation, patent law will create "one more incentive for U.S. companies who compete in foreign markets to move their manufacturing facilities abroad," Donald S. Chisum, *Normative and Empirical Territoriality in Intellectual Property: Lessons from Patent Law*, 37 Va. J. Int'l L. 603, 607 (1997), "treat[ing] U.S.-based companies worse than foreign companies" manufacturing the same components in foreign countries, Bernard Chao, *Patent Imperialism*, 109 Nw. U. L. Rev. Online 77, 88 (2014). This plainly was not Congress' intent.

Moreover, there is a serious danger that the Federal Circuit's extraterritorial expansion of U.S. patent law "would undermine the international system of national patents and lead to a type of U.S. patent imperialism." *Id.* at 86. Companies concerned about the manufacture and sale of products abroad could choose to sue for patent infringement in the U.S., "even if the other country has refused to award a patent for a particular invention and has consciously chosen to provide more modest recoveries to those that are awarded patents there." *Id.* at 87. "Clearly, the United States would be extremely upset if the circumstances were reversed and another country tried to impose its patent values on products made and sold in the U.S."; other countries will likely be no more pleased about the extraterritorial expansion of U.S. patent law, and may even retaliate by seeking to expand their patent laws to cover activities occurring in the U.S. *Id.*

Thus, the Federal Circuit's broadly extraterritorial interpretation risks "creat[ing] friction between States that, after having made deliberate policy

choices in the best interest of their citizens, offer differing degrees of patent protections." Jacob A. Schroeder, *So Long As You Live Under My Roof, You'll Live By . . . Whose Rules?: Ending the Extraterritorial Application of Patent Law*, 18 Tex. Intell. Prop. L.J. 55, 81 (2009). These potential consequences are all the more troubling when the Federal Circuit's errors are considered in combination; each significantly expands the extraterritorial scope of § 271(f)(1), but together they open a wide door for potentially crushing U.S. infringement liability for foreign conduct that is perfectly lawful where performed.

If U.S. patent law is going to be used to distort the incentives for companies to source commodity components from U.S. operations, and to create friction with foreign countries, any such "alteration should be made after focused legislative consideration, and not by the Judiciary forecasting Congress' likely disposition." *Microsoft*, 550 U.S. at 459. In short, as this Court has explained, if there is a "loophole" in the extraterritorial reach of the patent law, then it is "properly left for Congress to consider, and to close if it finds such action warranted." *Id.* at 457. The inherently delicate and political policy-making should not be undertaken by a divided panel of the Federal Circuit. This Court's review is needed; the petition should be granted.

CONCLUSION

For the foregoing reasons, the petition for a writ of certiorari should be granted.

Respectfully submitted,

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June 26, 2015

APPENDIX

APPENDIX A

UNITED STATES COURT OF APPEALS, FEDERAL CIRCUIT

Nos. 2013-1011, 2013-1029, 2013-1376

PROMEGA CORPORATION,
Plaintiff-Cross-Appellant,

and

MAX-PLANCK-GESELLSCHAFT ZUR FORDERUNG DER WISSENSCHAFTEN E.V.,
Plaintiff,

v.

LIFE TECHNOLOGIES CORPORATION, INVITROGEN IP HOLDINGS, INC., AND APPLIED BIOSYSTEMS, LLC,
Defendants-Appellants.

Dec. 15, 2014

Before PROST, Chief Judge, MAYER and CHEN, Circuit Judges.

Opinion

CHEN, Circuit Judge.

Life Technologies, Applied Biosystems, LLC, and Invitrogen IP Holdings, Inc. (collectively, LifeTech) appeal from the district court's grant of a motion for summary judgment that the asserted claims of United States Patent Nos. 5,843,660 ('660 patent), 6,221,598 ('598 patent), 6,479,235 ('235 patent), and 7,008,771

('771 patent) (collectively, the Promega patents) are not invalid for lack of enablement and obviousness. Promega Corp. and Max-Planck-Gesellschaft zur Förderung der Wissenschaften E.V. (collectively, Promega) appeal from a grant of a motion for judgment as a matter of law (JMOL) that LifeTech's accused products do not infringe either the Promega patents or U.S. Patent No. RE 37,984 (the Tautz patent), a motion that resulted in the vacatur of a jury's verdict of damages and willful infringement. Finally, LifeTech appeals from the district court's oral ruling that it is not licensed for all uses of the asserted patents under a license agreement with Promega (2006 Cross License).

For the reasons discussed herein, we conclude that the asserted claims of the Promega patents are invalid for lack of enablement. We also find substantial evidence that LifeTech is liable for infringement of the Tautz patent under both 35 U.S.C. § 271(a) and 35 U.S.C. § 271(f)(1). Finally, we affirm the district court's finding that the 2006 Cross License does not cover all of LifeTech's sales of the accused products. We therefore reverse the grant of LifeTech's motion for JMOL and remand to the district court for a determination of damages based on LifeTech's infringement of the Tautz patent.

I. BACKGROUND

DNA is a double-stranded molecule that encodes genetic instructions for living organisms. It consists essentially of two complementary strands of nucleotides. Particular nucleotide sequences may be repeated within a region of a DNA strand. For example, the DNA sequence ATT (adenine-thymine-thymine)

may be repeated ten times in a row in a particular location. Such repeating sequences are called "short tandem repeats" (STR), and the region of the DNA strand in which they occur is called an STR "locus."

STR loci occur frequently in the human genome. The number of repeated sequences within an STR locus varies highly from person to person. For example, one individual's DNA may have eleven ATT repeats at a given STR locus, while another individual may have fourteen at the same locus. These variations are referred to as "alleles," or markers, of the particular locus. Alleles are responsible for "polymorphism," or genetic differences between individuals.

No one allele varies enough to differentiate one person from another to a statistically significant degree. A particular set of alleles at multiple loci within an individual's DNA, however, can be used to create a DNA "finger-print" unique to that individual. This method of identification is called "STR profiling" and is useful in many fields, including forensic science.

STR profiling may require making copies of the loci of interest in order to obtain a detectable amount of DNA for analysis. This process is called "amplification," and can be accomplished with polymerase chain reaction (PCR). In PCR, a pair of "primers" effectively "flanks," or marks the start and finish of, the locus to be copied. Strands of DNA are then replicated between the primer pair by a DNA polymerase. This process is repeated until a sufficient number of copies of the desired STR locus are generated.

It is highly beneficial to amplify multiple STR loci simultaneously, creating a "multiplex" reaction or a co-amplification. Joint Appendix (J.A.) 1381.

Multiplexing, however, is more complicated than performing a series of individual, or "monoplex," amplifications. J.A. 1371. This is because a successful multiplex reaction depends on the selection of a set of primer pairs for which each primer pair not only flanks its respective target locus, but does not overlap—and thus interfere—with primer pairs for other targeted loci. *Id.* at 1372.

Identification of STR loci sets and primer pairs that successfully co-amplify is a trial and error process. In the early 1990s—the time of invention of the patents-in-suit—it is undisputed that scientists could not predict with any certainty, absent a preexisting publication or teaching, whether a given set of loci would successfully co-amplify. *Id.* This was true even when adding a new locus to an already successful multiplex, as skilled artisans could not predict "how the loci would interact with each other or how effectively and efficiently the primers would work in a single reaction [multiplex] environment." *Id.* It is also *undisputed* that the greater the number of STR loci sought to be amplified in a single reaction, the more complicated the process of creating a successful multiplex for that loci set. *Id.* For example, adding an eighth locus to a seven-loci multiplex (7-plex) was "more complicated" than adding a seventh locus to a six-loci multiplex (6-plex). *Id.* This was because in order to determine whether the loci would co-amplify successfully, it was necessary to "develop primer pairs that would co-amplify together and not interfere with each other[,] avoid undesirable results such as nonspecific amplification or primer-dimer formation[,] and adjust a number of reaction parameters such as temperature, the number of amplification cycles, and the concentration of primers, enzyme, buffer, dNTP, etc." *Id.* at 1372-73.

A. Patents-in-Suit

This case involves five patents that relate to multiplex amplification of STR loci. Promega owns the four Promega patents outright and is the exclusive licensee of the Tautz patent. The Promega patents claim methods or kits for simultaneously determining the alleles present in a set of STR loci from DNA samples, comprising: (a) obtaining a DNA sample; (b) selecting a set of loci of the DNA sample to amplify, including at least the specific loci recited in the claim; (c) co-amplifying the selected loci in a multiplex amplification reaction; and (d) evaluating the amplified alleles to determine the number of STR that are present at each loci. *See, e.g.*, '660 patent, claim 5; '235 patent, claim 1; '598 patent, claim 23; '771 patent, claim 5.

Each of the asserted claims[1] in the Promega patents includes a limitation that recites the phrase "a set of . . . loci" followed by a list of particular STR loci multiplexes of varying complexity, ranging from a 3-plex to a 14-plex. During claim construction, the district court construed the asserted claims with the transitional phrase "a set of . . . loci . . . consisting of" in the relevant limitation as "limited to products that use no loci other than those listed in the claims" (i.e., "closed loci set" claims),[2] and other claims with

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[1] Promega asserted infringement of claims 25, 27-31 of the '660 patent, claims 18-19 and 21-23 of the '235 patent, 10, 23-24, 27, and claim 33 of the '598 patent, claim 5 of the '771 patent, and claim 42 of the Tautz patent. *Promega Corp. v. Max-Planck-Gesellschaft zur Forderung der Wissenschaften E.V.*, No. 10-cv-0281-bbc, ECF No. 345, slip op. at 1356 (W.D.Wis. Nov. 29, 2011) (hereinafter, *Promega I*).

[2] The district court granted LifeTech's motion for summary judgment of noninfringement of the "closed loci set" claims

the transitional phrase "a set of . . . loci . . . comprising" in the relevant limitation as not so limited (i.e., "open loci set" claims). *Promega I*, slip op. at 1358-59. Claim 23 of the '598 patent is one such claim with an "open loci set" limitation:

> 23. A kit for simultaneously analyzing short tandem repeat sequences in a set of short tandem repeat loci from one or more DNA samples, comprising:
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> A single container containing oligonucleotide primers for each locus in *a set of* short tandem repeat *loci* which can be co-amplified, *comprising* HUMCSF1PO, HUMTPOX, and HUMTH01.

'598 patent, 40:22-28 (emphasis added).

This claim recites an STR profiling kit with primers that can successfully co-amplify a set of three specific STR loci. Both parties agree that the claim requires successful co-amplification of every locus in the

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(claims 25 and 27-31 of the '660 patent), a decision that Promega did not appeal. *Promega I*, slip op. at 1350. Representative claim 25 of the '660 patent recites:

> 25. A kit for simultaneously analyzing short tandem repeat sequences in at least three loci, comprising a container which has oligonucleotide primers for co-amplifying *a set of* at least three short tandem repeat *loci*, wherein the set of loci are selected from the sets of loci *consisting of*:
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> D3S1539, D19S253, D13S317;
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> D10S1239, D9S930, D20S481;
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> . . .
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> D16S539, D7S820, D13S317, D5S818, HUMCSF1PO, HUMTPOX, HUMTH01, HUMvWFA31; and
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> D16S539, D7S820, D13S317, D5S818, HUMF13A01, HUMFESFPS, HUMBFXIII, HUMLIPOL.

'660 patent, 67:35-68:13 (emphasis added).

claimed "a set of . . . loci." Because Promega used the word "comprising" in the "a set of . . . loci" limitation, the district court concluded that claim 23 covers not only the three loci recited in the claim, but also any other loci combination containing those three recited loci—whether that combination includes 13, 1,300 or 13,000 STR loci. *Promega I*, slip op. at 1353. The district court's construction of the "a set of . . . loci" limitation in claim 23 and the other asserted claims is not disputed on appeal.

The Tautz patent is likewise directed to a process for examining polymorphism in DNA samples. For example, the Tautz patent claims a kit for testing at least one STR locus that contains: (1) a mixture of primers; (2) a polymerizing enzyme such as *Taq* polymerase; (3) nucleotides for forming replicated strands of DNA; (4) a buffer solution for the amplification; and (5) control DNA. Claim 42 of the Tautz patent recites:

42. A kit for analyzing polymorphism in at least one locus in a DNA sample, comprising:

a) at least one vessel containing a mixture of primers constituting between 1 and 50 of said primer pairs;

b) a vessel containing a polymerizing enzyme suitable for performing a primer-directed polymerase chain reaction;

c) a vessel containing the deoxynucleotide triphosphates adenosine, guanine, cytosine and thymidine;

d) a vessel containing a buffer solution for performing a polymerase chain reaction;

e) a vessel containing a template DNA comprising i) a simple or cryptically simple nucleotide sequence having a repeat motif length of 3 to 10 nucleotides and ii) nucleotide sequences flanking said simple or cryptically simple nucleotide sequence that are effective for annealing at least one pair of said primers, for assaying positive performance of the method.

Tautz patent, 16:43-61.

B. Accused Products

LifeTech manufactures genetic testing kits that provide components for carrying out a multiplex amplification of STR loci from DNA samples. The kits contain a number of components, including: (1) a primer mix; (2) *Taq* polymerase; (3) PCR reaction mix including nucleotides; (4) a buffer solution; and (5) control DNA. Each of these kits is designed to successfully co-amplify STR loci combinations that include the recited loci listed in the asserted claims of the Promega patents as well as loci that are not listed in the claims. J.A. 1233-36. LifeTech manufactures one component of its kits in the United States, the *Taq* polymerase, which it ships overseas to a LifeTech manufacturing facility in the United Kingdom. J.A. 6288. This offshore facility assembles and sells the kits worldwide. Relevant here, LifeTech's STR kits are used by law enforcement agencies for forensic identification, and by clinical and research institutions for purposes such as analyzing cancer cells. J.A. 2265-66.

C. 2006 Cross License

In 2006, Promega and defendant Applied Biosystems[3] entered into a non-exclusive cross license agreement that granted Applied Biosystems the right to use the alleged inventions in the Promega patents and the Tautz patent for "Forensics and Human Identity Applications."[4] The 2006 Cross License limited Applied Biosystems' use of the patents-in-suit to, *inter alia*, activities relating to legal proceedings. J.A. 1868-69.

D. Procedural History

In 2010, Promega sued LifeTech for infringement of the Promega and the Tautz patents, alleging that Life-Tech sold STR testing kits not covered by the 2006 Cross License. LifeTech responded that it was licensed to practice all of the patents-in-suit and filed counterclaims that the asserted claims of the Promega patents were invalid. In September 2011, both parties cross-moved for summary judgment on infringement and invalidity. The district court rejected LifeTech's license defense to direct infringement, orally ruling that the license was limited to use in live forensic investigations conducted by police officers, and thus LifeTech's sales outside this field of use were infringing. *See* J.A. 1792.

The district court also ruled on summary judgment that LifeTech's sales of its STR kits for uses other than live forensic investigations conducted by police officers directly infringed claim 42 of the Tautz patent

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[3] Applied Biosystems was then part of Applera Corporation, but is now a wholly owned subsidiary of Life-Tech.

[4] The actual language of the 2006 Cross License is confidential and subject to a protective order, so we refer to the agreement only in broad terms.

and the claims of the Promega patents containing the "open loci set" limitation. *Promega I*, slip op. at 1356. In addition, the district court rejected LifeTech's enablement and obviousness challenges to the Promega patents. LifeTech did not challenge the validity of the Tautz patent. *Id.* at 30-32.

The case proceeded to a jury trial on willfulness and damages. During the trial, both parties stipulated that LifeTech grossed $707,618,247 in worldwide sales of its accused STR kits during the relevant five-and-a-half year period of infringement. J.A. 5478; 202. At the close of Promega's case-in-chief, a dispute arose between the parties about what Promega was required to prove during trial. Promega believed the issue of infringement was decided and it merely needed the jury to determine an appropriate amount of damages. LifeTech contended that Promega had confused the stipulated worldwide sales amount with actual damages available under the Patent Act, and that Promega had failed to satisfy its burden of proof as to which products and sales were eligible for damages under 35 U.S.C. § 271(a).[5] J.A. 5735-36. The district court acknowledged that there had been "a miscommunication between counsel, and that included me." J.A. 6190. It determined that although Promega "thought that it didn't have to put in any more [evidence about damages] than it already had," Promega's belief was "not correct." *Id.* However, it allowed Promega to present additional evidence in

[5] 35 U.S.C. § 271(a) states: "Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent."

its rebuttal case in order to attempt to correct this deficiency. *Id.*

Following the close of evidence, the district court asked the jury to answer the question: "[W]hat is the total dollar amount of Defendant's sales of STR kits that were United States sales as that term has been defined for you in the instructions?" J.A. 189. Over LifeTech's objection, the district court asked the jury to consider liability for both § 271(a) and § 271(f)(1), explaining that "United States sales" included "all kits made, used, offered for sale, sold within the United States or imported into the United States, as well as kits made outside the United States where a substantial portion of the components are supplied from the United States." *Id.* LifeTech challenged the inclusion of the § 271(f)(1) language and argued that that an alleged patent infringer (*i.e.*, LifeTech and its foreign manufacturing facility) could not induce itself within the meaning of the statute.

The jury returned a verdict of willful infringement and found that: (1) all of LifeTech's worldwide sales were attributable to infringing acts in the United States; (2) ten percent of those sales were for unlicensed uses; and (3) Promega was entitled to $52 million in lost profits. *See* J.A. 202-03. After the entry of judgment, LifeTech moved for JMOL on the ground that Promega "failed to prove the applicable damages for patent infringement." *Id.* at 2296. The district court granted LifeTech's motion, finding that Promega failed to present sufficient evidence to sustain a jury verdict under § 271(a) and § 271(f)(1). The district court vacated the prior finding of infringement and denied Promega's motion for reconsideration, or in the alternative, a new trial.

Both parties appealed. Promega challenges the district court's vacatur of the jury's verdict of willful infringement and award of damages, and in the alternative, the denial of its motion for a new trial. LifeTech challenges the district court's finding that the Promega patents are both enabled and nonobvious. LifeTech also challenges the district court's finding that it is not licensed to practice the patents-in-suit under the 2006 Cross License. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

II. ANALYSIS

A. Standards of Review

Under the Seventh Circuit's standard, we review a grant of summary judgment *de novo*. *Dempsey v. Atchison, Topeka & Santa Fe Ry. Co.*, 16 F.3d 832, 836 (7th Cir.1994). Summary judgment is only proper when there are no disputed issues of material fact, even after viewing all reasonable inferences drawn from the record in the light most favorable to the nonmovant. *Id.* at 836.

Whether a claim satisfies the enablement requirement of 35 U.S.C. § 112, ¶ 1 is a question of law reviewed *de novo*.[6] *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1238-39 (Fed.Cir.2003). Any facts underlying the enablement determination are reviewed for clear error. *Id.* A party must prove invalidity based on

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[6] Paragraph 1 of 35 U.S.C. § 112 was replaced with newly designated § 112(a) when § 4(c) of the America Invents Act, Pub.L. No. 112-29, took effect on September 16, 2012. Because the applications resulting in the patents at issue in this case were filed before that date, we will refer to the pre-AIA version of § 112.

non-enablement by clear and convincing evidence. *Microsoft Corp. v. i4i Ltd. P'ship*, —— U.S. ——, 131 S.Ct. 2238, 2242, 180 L.Ed.2d 131 (2011).

We review motions for JMOL and for a new trial under regional circuit law. *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1202 (Fed.Cir.2010). In the Seventh Circuit, a grant of JMOL is reviewed "without deference, while viewing all the evidence in the light most favorable to the nonmoving party." *Trading Techs. Int'l v. eSpeed, Inc.*, 595 F.3d 1340, 1357 (Fed.Cir.2010) (citing *Harper v. Albert*, 400 F.3d 1052, 1061 (7th Cir.2005)). Denial of a motion for a new trial is reviewed for the abuse of discretion. *Huff v. Sheahan*, 493 F.3d 893, 899 (7th Cir.2007).

Finally, the licensing issues on appeal are governed by California law, pursuant to the choice of law clause in the 2006 Cross License. Under California law, interpretation of a contract is a judicial function reviewed *de novo*. *Cachil Dehe Band of Wintun Indians v. California*, 618 F.3d 1066, 1073, 1075 (9th Cir.2010).

B. Enablement of the Promega patents

The district court construed the asserted claims in the Promega patents with the "open loci set" limitation broadly, finding that the language of the claims "makes it clear that they are not limited to the recited loci because they all use the word 'comprising' when listing the loci." *Promega I*, slip op. at 1350. Thus, the district court concluded that "all of the asserted [open loci set] claims allow for unrecited loci." *Id.*

For example, claim 23 of the '598 patent recites an STR loci combination that *comprises* three specific loci. Under the district court's construction, claim 23 encompasses not only the 3-plex co-amplification

recited in the claims, but it also encompasses *any other larger, more complex multiplex reaction*, so long as it includes the three recited loci. Based on this construction—which is not disputed on appeal—LifeTech moved for summary judgment of invalidity of the asserted claims of the Promega patents for lack of enablement under § 112, ¶ 1. The district court denied LifeTech's motion, concluding that the asserted claims need not enable "unrecited elements." *Promega I*, slip op. at 1350, 1354.

The enablement requirement is set forth in 35 U.S.C. § 112, ¶ 1:

> The specification shall contain a written description of the invention, and the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same.

The enablement requirement ensures that "the public knowledge is enriched by the patent specification to a degree at least commensurate with the scope of the claims." *Nat'l Recovery Techs., Inc. v. Magnetic Separation Sys., Inc.*, 166 F.3d 1190, 1195-96 (Fed.Cir.1999). The scope of the claims must be "less than or equal to the scope of enablement." *Id.* at 1196.

Here, we disagree with Promega's characterization that unrecited STR loci combinations in the "open loci set" limitation of the asserted claims are merely "unrecited elements"; under the undisputed claim construction, they are part of the claim scope. In this field of technology, introducing even a single STR

locus to an existing loci multiplex significantly alters the chemistry of, and has an unpredictable effect on, whether the resulting multiplex will successfully co-amplify.

There is no genuine dispute that identifying STR loci multiplexes that will successfully co-amplify is a complex and unpredictable challenge, and as a result, undue experimentation may be required to identify a successfully co-amplifying multiplex that adds even a single new locus to an existing loci combination. To illustrate, Promega repeatedly argued to the United States Patent and Trademark Office (Patent Office) during prosecution that its then-pending claims were patentable because the prior art did not disclose "methods for selecting, co-amplifying, and evaluating the *specific sets* of short tandem repeat loci" recited in the claims. J.A. 1012 (emphasis added).[7] According to Promega, this lack of disclosure was critical, as the state of the art in this technology area "d[id] not disclose or suggest that any arbitrary combination of loci can be co-amplified without undue experimentation." J.A. 1225. Promega also stated that "multiplex amplification" of specific STR loci combinations disclosed in the prior art "cannot be extended to predict the success of multiplexing unrelated combinations of loci." *Id.* at 1224. Promega explained that this was because the prior art "clearly indicate[d] that each individual [STR] locus responds differently when subjected to the PCR using locus-specific primers." *Id.* at 1226. As a result, Promega stated that the prior art could not "provide any direction as to which of

[7] LifeTech collected over seventy similar representations to the Patent Office made by Promega during prosecution of the Promega patents. J.A. 1223-31.

many possible [STR loci combination] choices is likely to be successful." *Id.*

More specifically, Promega represented to the Patent Office that the addition of even a single locus to an existing loci combination rendered that new loci combination patentable. *See, e.g.*, J.A. 1226 (arguing a claim was patentable because "[o]ne of those four loci [disclosed in the prior art] is not included in the list of loci of claim 1 [of the '660 patent]."). For example, Promega argued that a claim reciting a 3-plex loci combination was patentable over prior art that disclosed only two of the three loci. J.A. 1230 ("No more than two of the STR loci disclosed in the [prior art reference] are included in any of the sets of at least three loci listed in step (b) of claim 21 [of the '598 and '235 patents] as amended."); *see also* J.A. 1227 ("[The prior art reference] fails to disclose the suitability of more than two of the loci listed in claim 1 [of the '660 patent]."). Thus, Promega argued that "the disclosure of some of the individual loci in the various [recited] sets of loci co-amplified" was insufficient to render a claim unpatentable. *See id.*

Promega pressed the same position when defending the validity of the Promega patents in this action. In particular, Promega argued that the loci multiplexes recited in its claims were new inventions even though they "comprised" prior art loci combinations that are subsets of its claimed STR loci. Promega justified its position by repeatedly describing the identification of new successfully co-amplifying STR loci combinations as "unpredictable." *E.g.*, Cross Appellant's Br. 8; [sic] 25, 61-62. In addition, Promega's expert opined that at the time of filing the parent application to the '598 patent, "any new STR multiplex . . . was inventive, even

where one added a single new locus to a pre-existing multiplex (e.g. adding a new locus to a multiplex of two loci to make a triplex; adding a new locus to a multiplex of three loci to make a quadruplex, etc.)." J.A. 715. Thus, Promega explained that without a preexisting publication or teaching, a skilled artisan "could not predict with any certainty . . . whether a given set of loci would co-amplify successfully together." J.A. 1358. Promega urged that "[t]he lack of these novel and unobvious locus combinations in the prior art, together with the unpredictable nature of this art, is fatal to [LifeTech's] obviousness arguments." *Id.* at 1360.

But when describing the scope of its claims for purposes of infringement, Promega sings a different tune. Despite the overwhelming evidence that the addition of a single locus to an existing loci combination can fundamentally transform the character of the resulting multiplex reaction, Promega argues that LifeTech's STR kits infringe its claims because *any and all* co-amplifying loci combinations that include the STR loci recited in the claims are encompassed by the claims. Promega has chosen broad claim language "at the peril of losing any claim that cannot be enabled across its full scope of coverage." *MagSil Corp. v. Hitachi Global Storage Techs., Inc.*, 687 F.3d 1377, 1381 (Fed.Cir.2012). Our previous decisions in *MagSil* and *Wyeth & Cordis Corp. v. Abbott Labs.*, 720 F.3d 1380 (Fed.Cir.2013), are instructive.

In *MagSil*, a patentee asserted infringement of a claim directed to a device used in computer hard drive disks that required a "change in resistance by at least 10%" between two electrodes on the device. 687 F.3d at 1379-80. The specification disclosed information sufficient to enable a skilled artisan to achieve a

change in resistance of 11.8%, and at the time of the invention, those in the field aspired to achieve changes in resistance of around 24%. *Id.* at 1381, 1383. Instead of tying the key claim limitation to what the specification enabled, the patentee sought to extend its scope in order to cover later-invented devices that achieved greater than 600% changes in resistance. *Id.* at 1383. To do so, the patentee contended that its claims encompassed the entire range of changes in resistance from 10% up to infinity because it had used standard "open claim" language that "d[id] not exclude additional, unrecited elements." *Id.* We rejected the patentee's argument because the specification of the patent "d[id] not contain sufficient disclosure to present even a remote possibility that an ordinarily skilled artisan could have achieved the modern dimensions of this art." *Id.* at 1382. We determined that "the specification enabled a marginal advance over the prior art," but did not support the infinite range of resistive changes encompassed by this claim limitation. *Id.*

Although the Promega patents recite specific sets of STR loci instead of an open-ended range as in *MagSil*, the claims at issue here are similar in that they cover the successful co-amplification of a virtually unlimited number of STR loci combinations (so long as they include the recited loci) through recitation of the "open loci set" limitation. And as in *MagSil*, we need not delineate the precise boundary at which Promega's claims are no longer enabled. It is sufficient to conclude, based on Promega's own statements, that the teachings of Promega's patents would not have enabled a skilled artisan at the time of filing to identify significantly more complicated sets of STR loci combinations that would successfully co-amplify—such as those found in LifeTech's STR kits—without

undue experimentation. Thus, like the patentee in *MagSil*, Promega's "difficulty in enabling the asserted claims is a problem of its own making." 687 F.3d at 1384.

In *Wyeth*, the patentee asserted infringement of claims covering a broad class of drug compounds with certain structures and properties. 720 F.3d at 1384-85. Although the specification disclosed only one species of the compound having these particular characteristics, the patentee nevertheless contended that its claims encompassed tens of thousands of other species within the genus that were not disclosed by the patent. *Id.* at 1382, 1384-85. The undisputed evidence, however, was that a skilled artisan could not determine whether a particular compound would exhibit the claimed properties without synthesizing and screening that compound, a "laborious" and "iterative" testing process. *Id.* at 1385.

Even if this testing process for any *one* compound would have been routine to a skilled artisan, we determined that practicing the *full scope* of the claims required "more than routine experimentation" because the specification disclosed "only a starting point for further iterative research in an unpredictable and poorly understood field." *Id.* at 1385-86. In particular, we noted that the specification was "silent" as to how to modify the disclosed compound "in a way that would preserve the recited utility." *Id.* at 1385. Further, even the patentee conceded that because of the unpredictable nature of the art, practicing the full scope of the claims would require testing each of the tens of thousands of potential species within the claimed genus. *Id.* As a result, we concluded that undue experimentation would have been required in

order to practice the full scope of the claims and thus the claims were invalid for lack of enablement. *Id.* at 1386.

While the claims of the Promega patents are not directed to a genus of compounds as in *Wyeth*, the claims at issue here similarly cover potentially thousands of undisclosed embodiments in an unpredictable field. And similar to *Wyeth*, the specification of the Promega patents provides only a starting point—specific STR loci combinations that successfully co-amplify—with no disclosure that would have allowed a skilled artisan, absent laborious testing, to add new loci to these recited STR loci combinations that would still successfully co-amplify. Undue experimentation is a matter of degree, and even "a considerable amount of experimentation is permissible," so long as it is "merely routine" or the specification "provides a reasonable amount of guidance" regarding the direction of experimentation. *Johns Hopkins Univ. v. CellPro, Inc.*, 152 F.3d 1342, 1360-61 (Fed.Cir.1998) (internal quotation omitted). But permissible routine experimentation "is not without bounds." *Wyeth*, 720 F.3d at 1386 (citation omitted). As the extensive evidence here demonstrates, undue experimentation would have been required in order to enable the full scope of coverage sought by Promega—the successful co-amplification of potentially thousands of unrecited STR loci combinations.

Promega argues that its "open loci set" limitations "permit" its claims to encompass a potentially limitless number of primers and multiplex reactions that are not enabled by the specification. Cross Appellant's Br. 55. Promega then seeks to shift the focus away from the particular facts of this case by contending

that nearly every claim using the transitional phrase "comprising" would be invalidated if we were to reject its position and agree with LifeTech. These fears are unfounded.

It is true that when used in the preamble of a claim, the term "comprising" permits the inclusion of other steps, elements, or materials in addition to the elements or components specified in the claims. *See In re Baxter*, 656 F.2d 679, 686 (CCPA 1981). As we stated in *Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1371 (Fed.Cir.2005), open claims "embrace technology that may add features to devices *otherwise within the claim definition* " (emphasis added). But the relevant usage of "comprising" here is not the one recited in the preamble. Rather, it is within the specific claim limitation that lists combinations of successfully co-amplifying STR loci, combinations whose identification and discovery Promega itself asserts is a complex and unpredictable endeavor. While the term "comprising" in a claim preamble may create a presumption that a list of claim elements is nonexclusive, it "does not reach into each [limitation] to render every word and phrase therein open-ended." *See Dippin' Dots, Inc. v. Mosey*, 476 F.3d 1337, 1343 (Fed.Cir.2007). Promega's claims differ from customary "open-ended" claims in that Promega's usage of "comprising" in its "open loci set" limitation, as construed, expands the claims at a key limitation in order to cover what are indisputably advances in this unpredictable art. Under the circumstances here, the numerous embodiments covered by Promega's claims cannot be merely regarded as "unrecited elements" in a standard "open-ended" claim.

Since the Promega patents do not enable a skilled artisan to practice the full breadth of this claim scope without undue experimentation, the challenged claims of the Promega patents are invalid for lack of enablement. Accordingly, we reverse the district court's denial of LifeTech's motion for summary judgment of invalidity of the four Promega patents for lack of enablement under § 112, ¶ 1 and vacate the district court's grant of Promega's motion for summary judgment of infringement for the Promega patents.[8]

C. Infringement under 35 U.S.C. § 271(f)(1)

Since the four Promega patents are invalid for lack of enablement, we need only address the district court's grant of LifeTech's motion for JMOL of noninfringement of the Tautz patent. As mentioned *supra*, LifeTech's accused genetic testing kits include a primer mix, a PCR reaction mix, a buffer solution, control DNA, and a polymerase (*Taq*), which is necessary for the PCR amplification. LifeTech manufactures this *Taq* polymerase component in the United States. LifeTech then ships this component to its facility in the United Kingdom for incorporation into its accused genetic testing kits, which are sold worldwide, including in the United States. *See* J.A. 2265-67.

As discussed *infra*, LifeTech admits that sales of these accused kits in the United States infringe the Tautz patent under 35 U.S.C. § 271(a). At trial, the jury also awarded lost profits to Promega based on *worldwide* sales of LifeTech's accused STR kits under

[8] Because the asserted claims of the Promega patents are invalid for lack of enablement, adjudication of LifeTech's obviousness challenge under 35 U.S.C. § 103 is unnecessary.

35 U.S.C. § 271(f)(1). The district court, however, granted LifeTech's motion for JMOL under Rule 50(b) of the Federal Rules of Civil Procedure that Promega failed to prove infringement under § 271(f)(1) as a matter of law. In particular, the district court held that (1) § 271(f)(1) requires the involvement of another, unrelated party to "actively induce the combination of components" and that no other party was involved in LifeTech's assembly of the accused kits, and (2) a "substantial portion of the components" requires at least two components to be supplied from the United States and that LifeTech supplied only a single component—the *Taq* polymerase—from the United States. *Promega Corp. v. Max-Planck-Gesellschaft zur Forderung der Wissenschaften E.V.*, No. 10-cv-0281-bbc, ECF No. 684, slip op. at 1343-49 (W.D.Wis. Sept. 13, 2012) (hereinafter, *Promega II*). On this narrow issue, we disagree with the district court's reading of § 271(f)(1). Moreover, substantial evidence supports the jury's finding that LifeTech's activities infringe the Tautz patent under a proper understanding of that statutory provision. Therefore, the district court erred in granting LifeTech's motion for JMOL.

Under 35 U.S.C. § 271(f)(1), a party may infringe a patent based on its participation in activity that occurs both inside and outside the United States. Section 271(f)(1) states:

> Whoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a

manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

1. "Actively induce the combination"

We first address whether "to actively induce the combination" requires involvement of a third party or merely the specific intent to cause the combination of the components of a patented invention outside the United States. We conclude that no third party is required.

To begin, we acknowledge that the word "induce" can suggest that one is influencing or persuading "another." However, induce also encompasses the more broad concept of "to bring about, to cause." *See Promega II*, slip op. at 1347 (citing http://www.merriam-webster.com/dictionary/induce); *see also VII Oxford English Dictionary* 888 (2d ed.1989) ("[t]o bring about, bring on, produce, cause, give rise to"); *Am. Heritage Coll. Dictionary* 894 (4th ed.2000) ("[t]o bring about or stimulate the occurrence of; cause"). The object of the transitive verb "induce" can either be a person or a thing, such as an activity or result. The statute is written such that an activity—"the combination"—is the object of "induce," not a person. Had Congress wanted to limit "induce" to actions completed by two separate parties, it could easily have done so by assigning liability only where one party actively induced *another* "to combine the [patented] components." Yet, "another" is absent from § 271(f)(1).[9] Instead, the focus of the statute is

[9] In this respect, § 271(f)(1) discusses inducement unlike other areas of the law, where statutes describe the inducement of "another person," "any individual," or a third party. *See, e.g.*, statutes involving extortion (N.Y. State Penal Law ¶ 155.05(2)(e)

to induce "the combination of the components of the patented invention."

Nor does the concept of a third party appear in the legislative history for the § 271(f) amendment, which focuses on the would-be infringer's action of supplying components overseas. The legislative history explains: "In order to be liable as an infringer under paragraph (f)(1), one must supply or cause to be supplied 'all or a substantial portion' of the components in a manner that would infringe the patent if such combination occurred within the United States." *Section-by-Section Analysis: Patent Law Amendments of 1984*, 130 Cong. Rec. 28,069 (1984) *as reprinted in* 1984 U.S.C.C.A.N. 5827, 5828 (hereinafter, "Legislative History").

Congress enacted § 271(f) in response to a "loophole" brought to its attention by the Supreme Court's decision in *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 92 S.Ct. 1700, 32 L.Ed.2d 273 (1972). Legislative History, 1984 U.S.C.C.A.N. at 5828. In *Deepsouth*, the Fifth Circuit affirmed an injunction barring use of an infringing shrimp deveining machine within the United States. 406 U.S. at 519, 92 S.Ct. 1700. The infringer subsequently began making the parts of its enjoined shrimp deveining machine in

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("A person obtains property by extortion when he compels or *induces another person* to deliver such property to himself or to a third person. . . .") (emphasis added)); pandering (D.C.Code § 22-2705("(a) It is unlawful for any person, within the District of Columbia to: (1) Place or cause, *induce*, entice, procure, or compel the placing of *any individual* in the charge or custody of any other person, or in a house of prostitution, with intent that such individual shall engage in prostitution") (emphasis added)); child delinquency (FL Act § 827.04 ("Contributing to the delinquency or dependency of a child; penalty.—(1) Any person who: (b) *Induces or endeavors to induce*, by act, threat, command, or persuasion, *a child*. . . .") (emphasis added)).

the United States, then exported those parts to its foreign buyers, who would ultimately assemble and use the completed machines abroad. *Id.* at 523-24, 92 S.Ct. 1700. The Supreme Court found that the unassembled export of the elements of the infringing shrimp deveining machine did not infringe the patent, which required the completed combination of those elements. *Id.* at 528-29, 92 S.Ct. 1700. The Court determined that without a "clear and certain signal from Congress," it was not prepared to expand the rights of patent holders to include an "extraterritorial effect." *Id.* at 531, 92 S.Ct. 1700.

Congress responded to *Deepsouth* by enacting § 271(f). Section 271(f) closed the *Deepsouth* "loophole" by expanding the reach of the patent statute to capture certain domestic precursors to extraterritorial activity not previously considered as infringing. In terms of its policy goals, § 271(f)(1) sought to "prevent copiers from avoiding United States patents by supplying components of a patented product in this Country so that the assembly of the components may be completed abroad." Legislative History, 1984 U.S.C.C.A.N. at 5828.

To achieve these goals, Congress chose language for § 271(f)(1) broader than the particular facts of *Deepsouth*. For example, although *Deepsouth* involved the supplying of patented components to unrelated third party customers, Congress did not limit the reach of § 271(f)(1) to "third parties" or "another." In addition, although *Deepsouth* involved the supply of *all* the components of a patented invention, Congress chose to expand liability to the supply of "all or a substantial portion" of the components, discussed *infra*. Given Congress' choice of broadening language—which focuses solely on the activity abroad ("the combination") rather than the actor performing the

combination—and acknowledgment of "the need for a legislative solution to close a loophole" identified in *Deepsouth*, Legislative History, 1984 U.S.C.C.A.N. at 5828, it is unlikely that Congress intended § 271(f)(1) to hold companies liable for shipping components overseas to third parties, but not for shipping those same components overseas to themselves or their foreign subsidiaries.[10]

LifeTech argues that "to actively induce the combination" requires involvement of a third party based on its interpretation of the phrase "actively induces infringement" in the context of 35 U.S.C. § 271(b). *See, e.g., Global-Tech Appliances, Inc. v. SEB SA*, —— U.S. ——, 131 S.Ct. 2060, 2065, 179 L.Ed.2d 1167 (2011). In *Global-Tech*, the Supreme Court, in deciding a different issue, uses language that assumes the presence of a second person as a direct infringer where there *was* such a person.[11] That assumption is quite natural for induced infringement under § 271(b), since a single party who causes the infringement of a patent would already be strictly liable for infringement under § 271(a). However, because § 271(f)(1) lacks such a strict liability companion statute, comparisons to § 271(b) are of limited value.

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[10] We are mindful of the fact that the Supreme Court has cautioned against the extraterritorial application of United States laws. *See, e.g., Deepsouth*, 406 U.S. at 531, 92 S.Ct. 1700. But in this instance, Congress' chosen language assigns liability to LifeTech's conduct within the United States, based on its extraterritorial effect.

[11] None of the cases cited by the dissent had to confront the question of statutory construction we face here.

2. "Substantial portion of the components of a patented invention"

We next address whether infringement under § 271(f)(1) requires at least two components to be supplied from the United States. Section 271(f)(1) assigns infringement to anyone who supplies or causes to be supplied "*all or a substantial portion* of the components of a patented invention." We hold that there are circumstances in which a party may be liable under § 271(f)(1) for supplying or causing to be supplied a single component for combination outside the United States. And based on the facts of this particular case, we conclude that substantial evidence supports the jury's verdict that LifeTech is liable for infringement under § 271(f)(1) for shipping the *Taq* polymerase component of its accused genetic testing kits to its United Kingdom facility.

As with our analysis for "to actively induce the combination," we begin by examining the ordinary meaning of the text of the statute. *See FDIC v. Meyer*, 510 U.S. 471, 476, 114 S.Ct. 996, 127 L.Ed.2d 308 (1994). The dictionary definition of "substantial" is "important" or "essential." *Webster's Third New Int'l Dictionary* 2280 (2002); *XVII Oxford English Dictionary* 67 (2d ed.1989) ("essential; material"); *see also Am. Heritage Coll. Dictionary* 1727 (4th ed.2000) ("considerable in importance . . ."). A "portion" is defined as a "section or quantity within a larger thing; a part of a whole." *Am. Heritage Coll. Dictionary* 1066 (4th ed.2000); *XII Oxford English Dictionary* 155 (2d ed.1989) ("[a] part of any whole"). Nothing in the ordinary meaning of "portion" suggests that it necessarily requires a certain quantity or that a single component cannot be a "portion" of a multi-component invention. Rather, the ordinary meaning of

"substantial portion" suggests that a single important or essential component can be a "substantial portion of the components" of a patented invention.

None of LifeTech's arguments persuade us otherwise. First, LifeTech contends that the reference to "components" in its plural form in the statute indicates that more than one "component" must be supplied outside the United States for § 271(f)(1) to apply.[12] *Promega II*, slip op. at 1344. LifeTech ignores, however, that the statute assigns infringement liability when a party supplies "*all or a substantial portion* of the components of a patented invention"—not merely the "components of a patented invention." Subsequent references within the statute to "such components" are clearly references to "the components of a patented invention," not to what must be "supplied" by the alleged infringer. To illustrate, the statute assigns liability to a party who "actively induce[s] the combination of *such components* outside of the United States *in a manner that would infringe the patent* if such combination occurred within the United States." The term "such components" must refer to the components "of a patented invention," and not to what is "supplied," as only the combination of all "components of a patented invention" results in infringement. In order to reference what must be "supplied" by the alleged infringer within the natural grammatical structure of the statute, Congress would have had to reference "such *all or a substantial portion*," not "such components." In short, LifeTech's

[12] We note that LifeTech's interpretation ignores the Dictionary Act, which instructs that "words importing the plural [can] include the singular." 1 U.S.C. § 1.

reading of "such components" is inconsistent with the grammatical structure of the statute.

LifeTech next compares § 271(f)(1) with § 271(f)(2), arguing that Congress used the plural "components" in subsection (f)(1) and the singular "component" in subsection (f)(2) for a reason.[13] However, these two subsections employ the terms in different contexts, and thus the use of "component" in § 271(f)(2) does not control the meaning of "components" in § 271(f)(1). The focus of the infringement inquiry under § 271(f)(1) is whether one or more components supplied by a party constitutes "all or a substantial portion of the components of a patented invention" and if so, whether the alleged infringer "actively induce[d] the combination" of those components. On the other hand, the focus of the infringement inquiry under § 271(f)(2) is whether a party has supplied any component "especially made or especially adapted for use in [a patented] invention" that is not a "staple article or commodity of commerce suitable for substantial noninfringing use."[14]

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[13] Section 271(f)(2) recites: "Whoever without authority supplies or causes to be supplied in or from the United States *any component* of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer" (emphasis added).

[14] Promega does not assert infringement under § 271(f)(2) because *Taq* polymerase is "a staple article or commodity of commerce suitable for substantial non-infringing use." *See* J.A. 6289.

LifeTech also contends that *Microsoft v. AT & T Corp.*, 550 U.S. 437, 127 S.Ct. 1746, 167 L.Ed.2d 737 (2007), supports its interpretation of § 271(f)(1). In *Microsoft*, an alleged infringer exported the "master version" of its accused operating system software overseas with the intent that the software would be copied by and installed on foreign manufacturers' computers, computers that were eventually sold to foreign customers. 550 U.S. at 445-46, 127 S.Ct. 1746. This operating system software incorporated a speech processing function that allegedly infringed the patentee's claims. *Id.* at 441, 127 S.Ct. 1746. On the facts before it, the Supreme Court addressed two specific questions: (1) "when, or in what form, does software qualify as a 'component' under § 271(f)"; and (2) whether "components" of the foreign-made computers were "supplie[d]" from the United States. *Id.* at 447, 127 S.Ct. 1746. The Supreme Court held that abstract software code "detached from an activating medium" such as a CD-ROM was not a "component" that could trigger infringement liability under § 271(f) because it was merely an "idea without physical embodiment." *Id.* at 449, 127 S.Ct. 1746. The Court also held that the copies of the accused software made by foreign manufacturers outside the United States were not "supplied" from the United States for purposes of § 271(f). *Id.* at 453-54, 127 S.Ct. 1746.

LifeTech points to two footnotes of the Supreme Court's opinion comparing the language of § 271(f)(1) with § 271(f)(2). First, the Court observed that the two subsections "differ, among other things, on the quantity of components that must be 'supplie[d] . . . from the United States' in order for liability to attach." *Microsoft*, 550 U.S. at 454 n. 16, 127 S.Ct. 1746. LifeTech ignores the next two sentences of the Court's opinion, however, which state: "Paragraph (2),

like (1), covers only a 'component' amenable to 'combination'" and "Paragraph (2), *like (1)*, encompasses only the 'suppl[y] . . . from the United States' of 'such [a] component' as will itself 'be combined outside of the United States.'" *Id.* (emphases added). This language tends to support the conclusion that § 271(f)(1) may apply when a single "component" is involved.

Second, the Supreme Court observed that "§ 271(f)(2) applies to the export of even a single component if it is 'especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use.'" *Microsoft*, 550 U.S. at 454 n. 18, 127 S.Ct. 1746. LifeTech appears to argue that the Court's use of the phrase "single component" in § 271(f)(2) by implication means that § 271(f)(1) applies only to multiple components. But LifeTech ignores the preceding sentence of the opinion, in which the Supreme Court observes that, in contrast, "§ 271(f)(1) applies to the supply abroad of 'all or a substantial portion of' a patented invention's components." *Id.* Again, this footnote does not suggest that § 271(f)(1) differs from § 271(f)(2) in that it necessarily requires the export of more than one component.

Moreover, LifeTech's interpretation of these two footnotes is undermined by the very facts of *Microsoft*. In *Microsoft*, the patented invention involved the combination of at least two components: operating system software and a computer. 550 U.S. at 441-42, 127 S.Ct. 1746. The alleged infringing activity under § 271(f) was a party's export of a *single* component of this two-component invention—either a "master disk" or an "electronic transmission" containing the accused operating system software. *Id.* at 446, 127 S.Ct. 1746.

The patentee did not specify which subsection of § 271(f) was triggered by the alleged infringer's activity, and for "clarity's sake," the Supreme Court focused its analysis on the text of § 271(f)(1). *Id.* at 447 n. 7, 127 S.Ct. 1746. Although the "electronic transmission" was determined not to be a "component," neither party argued—and the Supreme Court never suggested—that liability under § 271(f)(1) did not attach merely because the single component of a master disk or electronic transmission could not be a "substantial portion" of the components of the patented invention. In short, the Supreme Court in *Microsoft* could have decided the patentee's challenge by finding, or at least instructing, that liability under § 271(f)(1) requires the export of more than one component of a patented invention. It did not. In the absence of express guidance by the Supreme Court, we will not contravene the ordinary reading of the statute and categorically exclude the "supply" of a single component of a patented invention from the scope of § 271(f)(1).

Our determination that liability under § 271(f)(1) may attach for export of a single component does not end the inquiry, however. According to the statute, this component must be "a substantial portion" of the components of the patented invention. Here, we find substantial evidence to support the jury's conclusion that the *Taq* polymerase supplied by LifeTech from the United States to its foreign facility is a "substantial portion" of the components of the LifeTech's accused genetic testing kits.

Claim 42 of the Tautz patent recites five components: a primer mix, a polymerizing enzyme (such as *Taq* polymerase), nucleotides, a buffer solution,

and control DNA. Tautz patent, 16:43-61. LifeTech's domestic arm supplies[15] the *Taq* polymerase to its facility in the United Kingdom, which both manufactures the remaining four components and assembles all the components into the accused STR kits. J.A. 2265-67, 6288. *Taq* polymerase is an enzyme used to amplify the DNA sequences in order to obtain enough replicated sample for testing. J.A. 6281. Without *Taq* polymerase, the genetic testing kit recited in the Tautz patent would be inoperable because no PCR could occur. LifeTech's own witness admitted that the *Taq* polymerase is one of the "main" and "major" components of the accused kits. J.A. 6290-91. In short, there is evidence in the record to support the jury's finding that a polymerase such as *Taq* is a "substantial portion" of the patented invention.

In sum, we disagree with the district court that a single component supplied from the United States, no matter how important or central to the invention, can never constitute "a substantial portion of the components of a patented invention." The evidence demonstrates that LifeTech supplied a substantial portion of the patented invention—the polymerase—to its overseas facility as a component of its accused genetic testing kits. Further, whether LifeTech exhibited the necessary knowledge and intent to combine the *Taq* polymerase with the remaining components of its genetic testing kit "in a manner that would infringe" the Tautz patent if that combination occurred within the United States is not contested and is presumed. There is substantial evidence in the

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[15] LifeTech either purchases *Taq* polymerase from a third-party in the United States or produces *Taq* polymerase itself in an Austin, Texas facility. J.A. 6281-83.

record to support the jury's finding that LifeTech is liable for infringement under 35 U.S.C. § 271(f)(1).

D. Infringement under 35 U.S.C. § 271(a)

The district court also granted LifeTech's motion for JMOL of noninfringement of the Tautz patent under § 271(a) because it believed Promega did not offer evidence that LifeTech's accused products were made, used, offered for sale, or sold in the United States. Though the district court acknowledged that Promega had introduced evidence that at least some of LifeTech's accused products infringed under § 271(a), it granted LifeTech's motion because Promega had not shown that *all* its sales were infringing. We reverse the district court.

At trial, LifeTech admitted that some of the sales of its accused genetic testing kits in the United States were "technically an infringement" of Promega's patents. J.A. 5127. LifeTech also admitted that Promega was "entitled to be compensated for [LifeTech's] infringement." *Id.* Promega presented evidence to the jury showing sales of LifeTech's accused kits in the United States. *See* J.A. 7031-7170, 7362-7744, 7906-8002 (LifeTech sales records); J.A. 6249-68 (LifeTech testimony explaining the sales records). Based on LifeTech's own admissions, which are supported by evidence in the record, we conclude that LifeTech's kits made, used, or sold in the United States infringe the Tautz patent under 35 U.S.C. § 271(a). Because substantial evidence supports the jury's finding that LifeTech's accused kits infringe the Tautz patent under both § 271(a) and § 271(f)(1), we reverse the district court's grant of LifeTech's motion for JMOL of noninfringement of the Tautz patent.

E. 2006 Cross License

The 2006 Cross License is a limited field-of-use license for "Forensics and Human Identity Applications." Appellant's Br. 9. California state law provides: "The language of a contract is to govern its interpretation, if the language is clear and explicit, and does not involve an absurdity." Cal. Civ.Code § 1638. During a hearing before trial, the district court issued an oral ruling that the scope of the 2006 Cross License was limited to sales of LifeTech's STR kits used during "live" forensic investigations conducted by law enforcement agencies, and did not cover sales of the STR kits used for forensic research, education, and training at universities and other non-law enforcement bodies. J.A. 1792.

LifeTech contends that because forensic research, education and training are necessary parts of any "live" forensic investigation by a law enforcement agency, the 2006 Cross License also covers STR kits used by universities and other parties for any purpose related to forensic research, education, and training.[16] For example, Life-Tech argues that any educational use of its STR kits is for "Forensics and Human Identity Applications" of law enforcement agencies because "the forensics student is learning specifically how to use the very kits that will be used for legal proceedings, and *cannot* use those kits in legal proceedings if he or she has not been trained on them." Appellant's Br. 59.

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[16] In its Reply Brief, LifeTech argued for the first time that it has broader licensing rights to the Tautz patent based on a 1996 agreement. Reply Br. 8. We will not consider this untimely argument.

We are not persuaded by LifeTech's creative interpretation of the 2006 Cross License. LifeTech's desire to expand the scope of the license to authorize certain unspecified applications contradicts the express language of the agreement, which grants LifeTech a limited field-of-use license for "forensics and paternity." J.A. 1868-69. The district court correctly determined that the plain language of the 2006 Cross License's "Forensic and Human Identity Applications" field-of-use provision does not extend to research, education, and training. As the district court summarized in its oral ruling, "defendants want [the 2006 Cross License] to apply to every research project going on in the world that had anything to do with genetics, no. No. Doesn't work." *Id.* at 1792.

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We have considered all other arguments presented by the parties and find them unpersuasive.

III. CONCLUSION

For the foregoing reasons, we conclude that the challenged claims of the four Promega patents are invalid under 35 U.S.C. § 112, ¶ 1 for lack of enablement, and thus reverse the district court's denial of LifeTech's motion for summary judgment of invalidity. Because substantial evidence supports the jury's finding that LifeTech infringed the Tautz patent under both 35 U.S.C. § 271(a) and 35 U.S.C. § 271(f)(1), we reverse the district court's grant of JMOL of noninfringement as to the Tautz patent. We affirm the district court's ruling that certain sales of LifeTech's accused STR kits are not covered by the 2006 Cross License. Since the challenged claims of four of the five asserted patents on which the jury based its damages verdict are invalid, we vacate the jury's damages award.

We also vacate the district court's denial of Promega's motion for a new trial, and we remand to the district court to determine damages due to LifeTech's infringement of the Tautz patent.

AFFIRMED-IN-PART, REVERSED-IN-PART, VACATED-IN-PART, AND REMANDED.

COSTS

No costs.

Dissenting-in-part opinion filed by Chief Judge PROST.

PROST, Chief Judge, dissenting-in-part.

While I join Sections I-II.B and II.D-II.E of this opinion, I respectfully dissent from Section II.C in which the majority determines that LifeTech can be held liable for infringement of the Tautz patent under 35 U.S.C § 271(f)(1). The opinion concludes that LifeTech "actively induce[d]" itself (i.e., its U.K. subsidiary) to make the patented combination in the U.K. *See* Majority Op. at 1351–53. However, I read § 271(f)(1) and its requirement of active inducement to necessarily mean inducement of *another*. Indeed, we have never before held—in the context of either § 271(f) or § 271(b)—that a party can induce itself to infringe. And for good reason: this conclusion runs counter to unambiguous Supreme Court precedent. Therefore, contrary to the majority, I conclude that LifeTech cannot be held liable for infringing the Tautz patent under § 271(f)(1).[1]

Twice the Supreme Court has held that inducement liability requires a third party. In interpreting the phrase "induces infringement" in § 271(b), the Supreme Court wrote that it requires "that the inducer lead *another*" or "persuade *another*." *Global-Tech Appliances, Inc. v. SEB SA*, — U.S. —, 131 S.Ct. 2060, 2065, 179 L.Ed.2d 1167 (2011) (emphases added). Additionally, in *Metro-Goldwyn-Mayer Studios Inc. v. Grokster, Ltd.*, a case in the

[1] Because I find that the district court properly decided that LifeTech is not liable under § 271(f)(1) for active inducement, I would not reach the alternative argument that LifeTech is not liable under § 271(f)(1) because it only supplied a single component.

analogous copyright context,[2] the Supreme Court stated that inducement is defined as "entic[ing] or persuad[ing] *another*" to infringe. 545 U.S. 913, 935, 125 S.Ct. 2764, 162 L.Ed.2d 781 (2005) (emphasis added). The majority cannot point to a single case—from the Supreme Court or otherwise—that supports its contrary interpretation of inducement.

Our en banc court has also made similar statements regarding inducement under § 271(b). For example, in *DSU Medical Corp. v. JMS Co.*, we ruled that inducement requires proof: (1) "of culpable conduct, directed to encouraging *another's* infringement"; (2) that the defendant "actively and knowingly aid[ed] and abet[ted] *another's* direct infringement"; and (3) "that the alleged infringer knowingly induced infringement and possessed specific intent to encourage *another's* infringement." 471 F.3d 1293, 1305-06 (Fed.Cir.2006) (en banc) (emphases added). And in *Lucent Technologies, Inc. v. Gateway, Inc.*, we stated that "inducement requires evidence of culpable conduct, directed to encouraging *another's* infringement." 580 F.3d 1301, 1322 (Fed.Cir.2009) (emphasis added); *see also Wordtech Sys. v. Integrated Networks Solutions*, 609 F.3d 1308, 1315 (Fed.Cir.2010) (same).

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[2] The Supreme Court has explained it is most appropriate to draw an analogy between copyright cases and patent cases "because of the historic kinship between patent law and copyright law." *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 439, 104 S.Ct. 774, 78 L.Ed.2d 574 (1984); *see also Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1295 (Fed.Cir.2011) ("[T]he most analogous area to patent law is copyright.").

The majority rests its analysis on the legislative history surrounding the enactment of § 271(f). Even assuming that reliance on legislative history is appropriate in this circumstance, the majority ignores the most relevant part of the legislative history: "the term 'actively induce'" in § 271(f)(1) was expressly "drawn from existing subsection 271(b)[.]" 130 Cong. Rec. 28,069 (1984) (statement of Rep. Kastenmeier, inserting a section-by-section analysis of H.R. 6286). It is a "standard principle of statutory construction that identical words and phrases within the same statute should normally be given the same meaning." *Powerex Corp. v. Reliant Energy Servs., Inc.*, 551 U.S. 224, 232, 127 S.Ct. 2411, 168 L.Ed.2d 112 (2007). As Congress expressly based § 271(f)(1) on § 271(b), that principle of statutory construction has special force here.

Further, the majority focuses on the fact that it is illogical to hold companies liable for shipping components to third parties overseas while simultaneously permitting companies to ship those same components overseas to either itself or its subsidiaries. The majority states that it is "unlikely" that Congress intended this result. *See* Majority Op. at 1353. Maybe. Maybe not. More importantly, however, the majority imputes from Congress' supposed intent to close the *Deepsouth* loophole a much broader legislative intent to close all loopholes related to extraterritorial liability. This is improper. Congress replaced *Deepsouth* with the statutory language of § 271(f), not some amorphous "intent." In these circumstances it is hardly our role as judges to surmise or divine what Congress may or may not have foreseen or desired, and to act as its surrogate.

Indeed, the Supreme Court rejected such an aggressive methodology when it resolved *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 92 S.Ct. 1700, 32 L.Ed.2d 273 (1972). Facing a loophole in the statutory scheme, the Supreme Court in *Deepsouth* held that no law prohibited an entity from avoiding infringement by shipping components of a patented device for assembly outside the United States. And what happened next? Congress stepped in and superseded *Deepsouth* by enacting § 271(f). *See* 130 Cong. Rec. 28,065-69 (1984).

But I need not even look to *Deepsouth*. I also follow the clear guidance from the Supreme Court in *Limelight Networks, Inc. v. Akamai Technologies, Inc.*, —— U.S. ——, 134 S.Ct. 2111, 189 L.Ed.2d 52 (2014). There, the Court explained that "when Congress wishes to impose liability for inducing activity that does not itself constitute direct infringement, it knows precisely how to do so. The courts should not create liability for inducement of non-infringing conduct where Congress has elected not to extend that concept." *Id.* at 2118.

Finally, the Supreme Court has cautioned against employing a policy-oriented approach to judicial decision making when it would cause law to have extraterritorial application. Specifically, in *Microsoft Corp. v. AT & T Corp.*, the Supreme Court noted that Congress did not address all gaps when it drafted § 271(f) and, therefore, the Supreme Court chose to "leave in Congress' court" the broader, extraterritorial "patent-protective determination" the patentee sought in that case. 550 U.S. 437, 458, 127 S.Ct. 1746, 167 L.Ed.2d 737 (2007). The Supreme Court warned that "[i]f the patent law is to be adjusted[,] . . . the alteration should be made after focused legislative

consideration, and not by the Judiciary forecasting Congress' likely disposition." *Id.* at 458-59, 127 S.Ct. 1746. Because we are limited by the language of the statute, Supreme Court precedent, and our own precedent, I respectfully dissent from the portion of the majority's opinion addressing § 271(f)(1).

APPENDIX B

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

10-cv-281-bbc

PROMEGA CORPORATION,
Plaintiff,

and

MAX-PLANCK-GESELLSCHAFT ZUR FORDERUNG DER WISSENSCHAFTEN E.V.,
Involuntary Plaintiff,

v.

LIFE TECHNOLOGIES CORPORATION, INVITROGEN IP HOLDINGS, INC. AND APPLIED BIOSYSTEMS, LLC,
Defendants.

OPINION and ORDER

Plaintiff Promega Corporation sued defendants Life Technologies Corporation, Applied Biosystems, LLC and Invitrogen IP Holdings, Inc. for infringing and inducing infringement of five patents related to the copying of sequences of a DNA strand. The action grew out of a licensing agreement between the parties under which defendants Life Technologies and Applied Biosystems could sell plaintiff's patented products within certain permitted fields; plaintiff alleged that defendants were making, using and selling products into fields such as clinical diagnostics, clinical research and research markets, which were

not covered by the licensing agreement. A jury found in plaintiff's favor and awarded more than $50 million in damages. Dkt. #567.

Various motions from both sides are now before the court. Plaintiff seeks enhanced damages, attorney fees, costs and a permanent injunction. Dkt. ##593, 594, 599 and 601. Defendants argue that they are entitled to judgment in their favor, both because they proved their equitable defenses of estoppel and laches and because plaintiff failed as a matter of law to prove infringement under either of the theories it asserted at trial. In the alternative, they ask for various limitations on plaintiff's damages and for a new trial. Dkt. ##578, 580, 582, 584, 586 and 588.

Although I am persuaded that defendants failed to prove their equitable defenses, I agree with them that they are entitled to judgment as a matter of law under Fed. R. Civ. P. 50 because plaintiff failed to prove infringement under 35 U.S.C. § 271(a) or (f)(1), the only two theories plaintiff is asserting. The parties agree that plaintiff's evidence at trial relied on the assumption that *all* of the accused products defendants sold during the relevant time frame (between August 29, 2006 and the end of January 2012) were made in the United States, imported into the United States or made with a substantial portion of components from the United States, as required by § 271(a) and (f)(1). Because plaintiff failed to submit admissible evidence at trial showing that all the sales at issue satisfied one or more of these requirements, I cannot sustain the verdict. In addition, plaintiff failed to show that defendants engaged in active inducement, which is a separate requirement of § 271(f)(1). Accordingly, I am granting defendants'

Rule 50 motion and directing the clerk of court to enter judgment in their favor.

OPINION

I. EQUITABLE DEFENSES

Defendants seek judgment on their equitable defenses (and counterclaims) of estoppel and laches, which must be decided by the court. *Agfa Corp. v. Creo Products Inc.*, 451 F.3d 1366, 1375 (Fed. Cir. 2006). Before trial, I questioned defendants' failure to raise these defenses at summary judgment, but I concluded that the defenses were not waived, in accordance with circuit law. Dkt. #486 at 2-3 (citing *Diversey Lever, Inc. v. Ecolab, Inc.*, 191 F.3d 1350 (Fed. Cir. 1999), and *Pandrol USA, LP v. Airboss Railway Products, Inc.*, 320 F.3d 1354 (Fed. Cir. 2003)). I did not hold a separate trial on the defenses because defendants represented to the court that all of their evidence related to the defenses would be presented during the jury trial. Dkt. #520 at 2. Defendants have not altered that position now, but both sides have submitted briefs on the question whether the evidence at trial proved that plaintiffs' infringement claims should be dismissed under one or both defenses.

A. Equitable Estoppel

To prevail on their estoppel defense, defendants must prove three elements: (1) plaintiff engaged in "misleading conduct" that led defendants to believe reasonably that plaintiff did not intend to enforce the patents against defendants; (2) defendants relied on that conduct; and (3) defendants would be materially prejudiced if the plaintiff were permitted to proceed with its charge of infringement. *Aspex Eyewear Inc. v. Clariti Eyewear, Inc.*, 605 F.3d 1305, 1310 (Fed. Cir.

2010). Because I conclude that defendants have failed to prove the first element, I need not consider the other two.

Defendants do not argue that plaintiff made any misleading statements to them. Rather, defendants say that plaintiff misled them by failing to object to their allegedly illegal sales even though it knew that defendants were infringing by making sales that were not authorized under the terms of the parties' 2006 license.

A patentee's inaction may constitute misleading conduct, but it "must be combined with other facts respecting the relationship or contacts between the parties to give rise to the necessary inference that the claim against the defendant is abandoned. . . . In the most common situation, the patentee specifically objects to the activities currently asserted as infringement in the suit and then does not follow up for years." *A.C. Aukerman Co. v. R.L. Chaides Construction Co.*, 960 F.2d 1020, 1042 (Fed. Cir. 1992). *See also Aspex Eyewear*, 605 F.3d at 1310 (finding estoppel when plaintiff failed to take action against defendant after accusing it of infringement); *ABB Robotics, Inc. v. GMFanuc Robotics Corp.*, 52 F.3d 1062, 1064 (Fed. Cir. 1995) (objection of infringement by parent company followed by silence); *Hottel Corp. v. Seaman Corp.*, 833 F.2d 1570, 1574 (Fed. Cir. 1987) ("In the cases that have applied intentionally misleading silence in the patent infringement context, a patentee threatened immediate and vigorous enforcement of its patent right but then did nothing for an unreasonably long time."). In this case, defendants cite no evidence that plaintiff's inaction was preceded by a threat to sue or an accusation of infringement.

Defendants rely on a nonpatent case in which the court found that a contractor was equitably estopped from suing the Secretary of the Navy for failing to submit orders by mail rather than electronically, even though the contract at issue required mail delivery. *Mabus v. General Dynamics C4 Systems, Inc.*, 633 F.3d 1356, 1361-63 (Fed. Cir. 2011). In that case, the court concluded that the contractor had misled the Navy by accepting 13 electronically delivered orders before refusing later orders submitted in the same way. Defendants argue that the situation in this case is similar because plaintiff continued accepting royalty payments under the licensing agreement even though plaintiff sold kits that its customers used for purposes not permitted by the licensing agreement.

Even if I assume that accepting royalty payments for unlicensed sales could be a ground for estoppel, defendants' reliance on *Mabus* is misplaced because they have failed to meet their burden to show that plaintiff *knew* it was accepting payments for unlicensed sales. Randall Dimond, plaintiff's vice president, testified that he was not aware that defendants were selling outside the licensed fields until the fall of 2009, only a few months before plaintiff filed this lawsuit. Tr. Trans., dkt. #544, at 18. Defendants cite no statements from plaintiff showing that it was aware that defendants were failing to limit the use of its kits to licensed purposes. Rather, they ask the court to infer plaintiff's knowledge from various pieces of evidence, such as testimony that plaintiff and defendant Life Technologies both had representatives on a committee that discussed Life's use of kits for cell line authentication (a non-licensed use), testimony from one of defendants' employees that "customers" told "us" that plaintiff told the customers that defendants' Identifiler kit was "overkill," Ortuno Dep.,

dkt. #348, at 144, and testimony from one of defendants' experts in this case that he had used defendants' unlicensed kits. Even if I assume that this evidence is admissible, it is simply too speculative to prove that plaintiff misled defendants into reasonably believing that it would not enforce its rights under the patent. Accordingly, I conclude that defendants have failed to prove their equitable estoppel defense and counterclaim.

B. Laches

To prevail on their laches defense and counterclaim, defendants must prove that plaintiff "delayed filing suit for an unreasonable and inexcusable length of time from the time it knew or reasonably should have known of its claim" and the delay prejudiced defendants. *Hearing Components, Inc. v. Shure Inc.*, 600 F.3d 1357, 1375 (Fed. Cir. 2010). Again, this defense fails because defendants have not shown that, before filing this lawsuit, plaintiff knew or should have known for an unreasonable amount of time that defendants were infringing its patent. Defendants cite no case in which a court concluded that a party was entitled to a laches defense under similar circumstances. Accordingly, I am dismissing this defense as well.

II. MOTION FOR JUDGMENT AS A MATTER OF LAW

At summary judgment, I concluded that various kits defendants sold infringed one or more claims of the five patents at issue in this case. Dkt. #345. The issue at trial was whether defendants had engaged in particular behavior that violated any provisions of the patent statute. That issue was less straightforward than in some patent infringement cases because

defendants claimed that many of their kits were assembled and sold outside the United States. Generally, foreign sales are outside the scope of the patent statute.

Plaintiff relied on two theories of infringement at trial. First, it argued that defendants sold accused products that included components supplied from the United States, in violation of 35 U.S.C. § 271(f)(1). Second, it argued that the accused products were manufactured in or imported into the United States, in violation of 35 U.S.C. § 271(a). The jury found that all of the accused products defendants sold during the relevant time frame satisfied the requirements for one or both of these provisions.

In their renewed motion under Fed. R. Civ. P. 50(b), defendants argue that the evidence plaintiff presented was not legally sufficient to sustain the jury's verdict under either theory. When reviewing a motion filed under Rule 50, the court must consider "the record as a whole to determine whether the evidence presented, combined with all reasonable inferences permissibly drawn therefrom, is sufficient to support the verdict when viewed in the light most favorable to the party against whom the motion is directed." *Clarett v. Roberts*, 657 F.3d 664, 674 (7th Cir. 2011). *See also Koito Manufacturing Co. v. Turn-Key-Tech, LLC*, 381 F.3d 1142, 1148 (Fed. Cir. 2004) (regional circuit law applies to standard under Rule 50 motions). Because this standard was not met for either of plaintiff's theories of infringement, I am granting defendants' motion.

A. 35 U.S.C. § 271(f)(1)

Under § 271(f)(1),

> [w]hoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

Defendants argue that plaintiff failed to prove that a "substantial portion of the components" of the accused products was supplied from the United States, that defendants "actively induce[d]" the combination of components or that they did so "in a manner that would infringe the patent if such combination occurred within the United States." I will consider each of these contentions in turn.

1. Substantial portion of components

Neither side attempts to provide a comprehensive interpretation of the meaning of the word "substantial." However, defendants argue that, even when the evidence is considered in the light most favorable to plaintiff, it showed at most that *one* component of all the accused products, a polymerase, was supplied from the United States and that a single component is not a "substantial portion" as a matter of law. Although defendants do not deny that plaintiff adduced evidence that *some* of the accused products include two components from the United States, defendants say

that does not help plaintiff because plaintiff did not attempt to quantify the sales of those accused products that included at least two components from the United States. Rather, plaintiff adduced evidence only as to defendants' *total* worldwide sales, so defendants are entitled to judgment as a matter of law unless all of those sales fall under § 271(a) or (f)(1).

Plaintiff does not dispute defendants' last point, so I consider that to be conceded. However, plaintiff says that defendants' interpretation of § 271(f)(1) is wrong (because a single component may be "substantial") and their view of the facts is wrong as well (because a reasonable jury could find that at least two components of all of the accused products came from the United States). In addition, defendants say that plaintiff waived any argument that one component is not substantial by failing to raise it in a motion under Fed. R. Civ. P. 50(a).

a. Waiver

I disagree that defendants waived an argument regarding the proper interpretation of § 271(f)(1). In their Rule 50(a) motion, defendants argued that

> the statute requires that [plaintiff] prove a substantial portion of the components of the patented invention. I would submit, Your Honor, that for the Identifiler Kit that [plaintiff] went through the bill of materials on, there is evidence that could go to the jury for that kit. But [plaintiff] base[s] [its] entire 271(f)(1) analysis on all the remaining kits on the fact that they contained Taq DNA polymerases and that does not meet the burden of showing all or a substantial portion of the components as to those other kits.

Tr. Trans., dkt. #572, at 74. That was sufficient to put plaintiff on notice of defendants' position that a single component (the polymerase) is not a "substantial portion" of components, which is all that defendants were required to do. *Extreme Networks, Inc. v. Enterasys Networks, Inc.*, 2008 WL 4756498, *1 (W.D. Wis. 2008) (Rule 50(a) motion "must be specific enough to give notice to the plaintiff of the hole in its case so that it can attempt to put in more evidence while there is still an opportunity to do so"); *see also Exxon Shipping Co. v. Baker*, 554 U.S. 471, 486 n.5 (2008) ("motion under Rule 50(b) is not allowed unless the movant sought relief on similar grounds under Rule 50(a) before the case was submitted to the jury").

Plaintiff points out that defendants did not cite case law when making their Rule 50(a) motion, but I have never interpreted the rule to impose such an exacting burden on a party and plaintiff cites no authority to support that view. If plaintiff had additional evidence that the accused products included multiple domestic components, defendants' Rule 50(a) motion was fair warning that plaintiff should come forward with that evidence before submitting its case to the jury. Failing to cite case law does not rob the other side of an opportunity to fill the hole in its case. Case law citations might have persuaded plaintiff of the *necessity* of presenting additional evidence, but it was not defendants' burden to convince plaintiff to try harder, only to give it a chance to do so. Further, courts are not obligated to ignore controlling law simply because the parties fail to cite it, *Elder v. Holloway*, 510 U.S. 510 (1994); *In re Aqua Dots Products Liability Litigation*, 654 F.3d 748, 752 (7th Cir. 2011), so it would make little sense to prohibit parties from supporting their positions with additional authority in a Rule 50(b) motion.

b. Is a single component sufficient?

With respect to the merits, plaintiff acknowledges that § 271(f)(1) consistently uses the plural term "components." However, it argues that each use of "components" in the provision is referring to the components of the invention as a whole rather than the components from the United States. For example, plaintiff says that it makes more sense to read the phrase "where such components are uncombined in whole or in part" as a reference to the components of all of the invention rather than just the part or parts that come from the United States because, otherwise, "[o]ne could avoid infringement under 271(f)(1) by simply combining those components of the patented invention that are to be supplied from the United States prior to shipment." Plt.'s Br., dkt. #616, at 17.

Plaintiff's reading is plausible if one reads § 271(f)(1) in isolation, but it becomes less so when viewed in conjunction with the similarly worded § 271(f)(2):

> Whoever without authority supplies or causes to be supplied in or from the United States any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

35 U.S.C. § 271(f)(2).

Like § 271(f)(1), § 271(f)(2) targets products that may be manufactured and sold overseas, but include parts from the United States. For the purpose of this case, the primary difference is that § 271(f)(2) extends to "any component" of the invention rather than "all or a substantial portion of the components." (Plaintiff did not argue at trial that defendants' sales violated § 271(f)(2), presumably because it did not believe it could prove that any component was "especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use," which is an additional element in § 271(f)(2).)

Similarly to § 271(f)(1), § 271(f)(2) uses the phrase "where such component is uncombined in whole or in part." In that instance, the reference to the singular "component" must be to a component that is "supplied in or from the United States" rather than to the invention as a whole because § 271(f) does not apply to single component inventions. Further, because § 271(f)(1) employs the same phrasing as § 271(f)(2) ("where such components are uncombined in whole or in part"), it follows that the term "such components" in § 271(f)(1) refers to the components from the United States as well. *Nken v. Holder*, 556 U.S. 418, 426 (2009) ("[S]tatutory interpretation turns on 'the language itself, the specific context in which that language is used, and the broader context of the statute as a whole'") (quoting *Robinson v. Shell Oil Co.*, 519 U.S. 337, 341 (1997)).

As defendants point out, this conclusion is supported by the case law. In *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 454 n.16 (2007), the Supreme Court discussed § 271(f)(1) and (2), concluding that

"the two paragraphs differ, among other things, on the quantity of components that must be 'supplie[d] . . . from the United States' for liability to attach." Because § (f)(2) applies to a single component, the Court's statement that § (f)(1) and § (f)(2) "differ . . . on the quantity" of components, suggests that § (f)(1) requires that more than one component must come from the United States. More generally, the Court concluded that it was improper to use policy concerns about "loopholes" to justify broad interpretations of the patent statute, both because any "loophole" in the statute "is properly left for Congress to consider, and to close if it finds such action warranted," *id.* at 457, and because of the presumption that "our patent law operates only domestically and does not extend to foreign activities," so that any provision extending the patent law's reach into foreign territory must be construed narrowly. *Id.* at 455 (internal quotations omitted and alterations). Thus, even if plaintiff is correct that it would be easier for competitors to avoid infringement under a narrow interpretation, that is not a ground for expanding the reach of the statute.

Defendants cite two other federal cases in which a court concluded that § 271(f)(1) did not extend to inventions that include only one component from the United States: *Ormco Corp. v. Align Technology, Inc.*, 609 F. Supp. 2d 1057, 1073 (C.D. Cal. 2009); *Bristol-Myers Squibb Co. v. Rhone-Poulenc Rorer, Inc.*, No. 95 CIV 8833, 2001 WL 1263299, at *4 (S.D.N.Y. Oct. 19, 2001). Plaintiff cites no authority to the contrary. Accordingly, I conclude that a single component is not sufficient to satisfy § 271(f)(1).

Even if § 271(f)(1) did not require multiple components to come from the United States in all cases, it seems unlikely that one component could constitute a "substantial" portion in this case when plaintiff does not dispute defendants' position that the accused products are made up of no fewer than five components. Dkt. #581 at 8. Although plaintiff points to testimony that the polymerase is a "major" component of the accused products, dkt. #558, at 45-46, it does not quantify "major" or otherwise explain what it means.

c. Is there sufficient evidence of multiple components?

Alternatively, plaintiff argues that a reasonable jury could find that all of the accused products include two or more components from the United States. (Because defendants do, I will assume that two components are a substantial portion.) First, plaintiff cites Dimond's answer of "no" to the question, "Has anyone at Life Technologies ever contradicted the comment that Dr. Moehle made to you that these products are made or their components are made in the United States?" Tr. Trans., dkt. #555, at 61. However, because the question assumes various facts, Dimond's one-word answer establishes nothing. As defendants point out, counsel's question is referring to earlier testimony by Dimond that, "[a]t the time of that agreement [the 2006 cross license], I was informed by Dr. Moehle [an employee of defendants] that all of their products were made in the United States." Tr. Trans., dkt. #545, at 27. Even if I assume that Moehle has personal knowledge of where defendants' products were made, Dimond's testimony is unhelpful, both because it is so vague, referring generally to "products" rather than particular components, and because it is irrelevant where defendants made their components when the

parties entered their agreement in 2006. Particularly because Sandulli testified that multiple components of the accused products have been manufactured in the United Kingdom in recent years, Tr. Trans., dkt. #558, at 38-46, Dimond's vague testimony cannot carry the day for plaintiff.

Second, plaintiff relies on the designated deposition testimony of Michelle Shepherd, another employee of defendants, who said that "[c]omponents of the kits are manufactured in" the United States. Dkt. #551-1, at 129. When asked to specify which components, she said, "[t]he allelic ladders." *Id.* However, it is not reasonable to infer from this testimony that all of the accused products defendants sold worldwide since 2006 included allelic ladders. Again, Shepherd's testimony is vague; she does not provide any time frame. This is a problem in light of Sandulli's more specific testimony that defendants manufactured allelic ladders in the United States in the past, but no longer do so. Tr. Trans., dkt. #558, at 46. In addition, Shepherd did not testify that all of the accused kits included allelic ladders. Rather, when asked about the origins of a kit ordered in Germany, she said that she was "only able to speak to the U.S. shipping and manufacturing," dkt. #551-1 at 130, so it is impossible to infer from her testimony anything about the origin of components in kits shipped outside the United States. I conclude that plaintiff failed as a matter of law to prove that all of the accused products from 2006 to 2012 included a "substantial portion" of components from the United States.

2. Actively induce

Defendants argue that plaintiff failed to meet the element of active inducement for two reasons: (1) plaintiff did not adduce evidence regarding inducement of a third party; and (2) plaintiff did not adduce evidence that defendants "shipped components for assembly abroad with the intention of subverting the U.S. patent laws or otherwise culpably encouraged acts that would be acts of infringement if they occurred in the United States." Dfts.'s Br., dkt. #581. The second argument was not included in defendants' Rule 50(a) motion and it is not developed in the Rule 50(b) motion, so the argument is waived.

Plaintiff does not argue that defendants waived the first argument except to say that defendants cite new cases in their Rule 50(b) motion. (Although plaintiff does argue that defendants failed to ask for an instruction regarding active inducement, that argument is relevant only to defendants' motion for a new trial under Fed. R. Civ. P. 59.) As I explained above, I do not read Rule 50 as prohibiting parties from buttressing their arguments with supplemental authority in their renewed motions for judgment as a matter of law. In their Rule 50(a) motion, defendants stated that

> [t]here's no specific acts or circumstances from which the jury could infer that defendants actively induced a third party to assemble or use the kits in a manner that would have infringed if done in the United States. The statute requires that they be—one element is that in such a manner as to actively induce the combination of such components outside the United States in a

> manner that would infringe the patent if such combination occurred within the United States and so you can't induce yourself to do that.

Tr. Trans., dkt. #572, at 74. That was sufficient to preserve the issue.

The parties agree that plaintiff did not present any evidence at trial that defendants induced another party to combine any components outside the United States in an infringing manner. Rather, defendants did all the combining themselves. Thus, the question is whether the term "actively induce" requires the involvement of a third party or whether defendants may "induce" themselves under the statute.

Because the ordinary meaning of the word "induce" is to influence or persuade, http://www.merriam-webster.com/dictionary/induce, it makes little sense in common parlance to say that someone "induced himself" to perform a particular action. The more natural reading of the word is that it involves an action taken with respect to a third party, encouraging another to do something. As defendants point out, this is consistent with the way the Court of Appeals for the Federal Circuit has used the term in the context of 35 U.S.C. § 271(b). *DSU Medical Corp. v. JMS Co., Ltd.*, 471 F.3d 1293, 1305 (Fed. Cir. 2006) ("[I]nducement requires evidence of culpable conduct, directed to encouraging another's infringement."); *Manville Sales Corp. v. Paramount Systems, Inc.*, 917 F.2d 544, 553 (Fed Cir. 1990) ("It must be established that the defendant possessed specific intent to encourage another's infringement."); *Water Technologies Corp. v. Calco, Ltd.*, 850 F.2d 660, 668 (Fed. Cir. 1988) ("[A] person infringes [under § 271(b)] by actively and knowingly aiding and abetting another's direct infringement.").

Plaintiff does not deny that "active inducement" under § 271(b) requires the involvement of a third party. It simply says in a footnote that the cases defendants cite "are not on point" because they did not involve the interpretation of § 271(f)(1). Plt.'s Br., dkt. #616, at 8 n.6. This is true, but not helpful. Courts generally assume that the same phrase in the same statute means the same thing. *Powerex Corp. v. Reliant Energy Services, Inc.*, 551 U.S. 224, 232 (2007) ("A standard principle of statutory construction provides that identical words and phrases within the same statute should normally be given the same meaning."). Although that canon is not without its exceptions, defendants cite both legislative history and controlling case law supporting the view that the phrase "active inducement" means the same thing in both §§ 271(b) and 271(f)(1). *Liquid Dynamics Corp. v. Vaughan Co., Inc.*, 449 F.3d 1209, 1222 (Fed. Cir. 2006) (applying § 271(b) standard for active inducement in case brought under § 271(f)(1)); Section-by-Section Analysis of H.R. 6286, Patent Law Amendments Act of 1984," [sic] Congressional Record, Oct. 1, 1984, H10525–26 ("The term 'actively induce' is drawn from existing subsection 271(b) of the patent law, which provides that whoever actively induces patent infringement is liable as an infringer.").

As it did with respect to its interpretation of "substantial portion," plaintiff argues that it would create an undesirable loophole in the statute to construe "actively induce" as requiring a third party. This is plaintiff's strongest argument. As plaintiff points out, when defendants made their Rule 50(a) motion, I expressed doubt "that Congress intended to leave a loophole for anybody who did its own combinations of components outside the borders of the country."

Tr. Trans., dkt. #572, at 75. Although I still believe it makes little sense to prohibit a party from supplying another with components while permitting the party to supply itself, I am persuaded that the loophole is not one that a court is empowered to close.

As I noted above, the Supreme Court has admonished lower courts not to engage in "dynamic judicial interpretation" of § 271(f) in order to avoid perceived loopholes. *Microsoft*, 550 U.S. at 457. In particular, the Court said that courts should keep in mind the particular problem § 271(f) was intended to address:

> Section 271(f) was a direct response to a gap in our patent law revealed by this Court's *Deepsouth [Packing Co. v. Laitram Corp.*, 406 U.S. 518 (1972),] decision. See supra, at 1752, and n. 3. The facts of that case were undeniably at the fore when § 271(f) was in the congressional hopper. In *Deepsouth*, the items exported were kits containing all the physical, readily assemblable parts of a shrimp deveining machine (not an intangible set of instructions), and those parts themselves (not foreign-made copies of them) *would be combined abroad by foreign buyers*. Having attended to the gap made evident in *Deepsouth*, Congress did not address other arguable gaps.

Id. at 457-58 (emphasis added). Because the facts of *Deepsouth* involved inducement of a third party, this counsels against a broader interpretation of § 271(f) that would include other factual scenarios, even if policy considerations suggest that the statute should apply regardless what party is combining the components overseas.

I cannot accept plaintiff's interpretation of § 271(f)(1) in the face of all the reasons not to. These include the facts of *Deepsouth*, the Supreme Court's instruction to construe § 271(f) narrowly, the Federal Circuit's interpretation of the relevant phrase, the legislative history of § 271(f), the canon to interpret the same words in the same way and the ordinary meaning of the word "induce." It is particularly telling that plaintiff fails to address in its brief any of the reasons undermining its position. It may well be that Congress would have chosen its words differently had it contemplated the loophole it left open, but courts must apply statutes as they are written, not as the court believes they should have been written. Thus, plaintiff's failure to adduce any evidence that it induced the actions of a third party is a second and independent reason for concluding that plaintiff failed as a matter of law to prove its claim under § 271(f)(1).

3. In a manner that would infringe the patent

Defendants' final argument under § 271(f) is that their combination of components could not render them liable for violating that provision because their assembly of the accused products was permitted under the license agreement. Certain *sales* fell outside the scope of the agreement, but § 271(f)(1) does not address sales, only assembly.

I agree with plaintiff that defendants waived this argument by failing to present it in their Rule 50(a) motion. Defendants say that they preserved this issue by quoting the relevant language in the statute and arguing that plaintiff failed to satisfy it, but that is not sufficient because it fails to identify the particular problem. *Extreme Networks*, 2008 WL 4756498 at *1 ("Defendant cannot preserve all possible arguments

simply by listing the elements of a claim and arguing generally that the plaintiff did not meet them."). However, because I have concluded that plaintiff failed to meet the elements that a "substantial portion" of the components came from the United States and that defendants "actively induced" the combination of those components, defendants' waiver of another element does not change the result.

B. 35 U.S.C. § 271(a)

Alternatively, plaintiff argues that all of defendants' sales violated § 271(a), which provides: "whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent." In particular, plaintiff says that the jury could have found that all of the accused products are made in or imported into the United States.

With respect to § 271(a), plaintiff relies entirely on Shepherd's testimony. However, she admitted she did not know where all the kits were made. Tr. Trans., dkt. #551-1, at 129 ("I'm not certain there—all of these varieties of AmpFLSTR kits are assembled in Foster City [California]. They may be assembled in Warrington [the United Kingdom]."). And, as noted above, she admitted she did not know whether foreign orders came through the United States. *Id.* ("I'm only able to speak to the U.S. shipping and manufacturing."). Accordingly, even if the jury were to ignore all the evidence that many of the accused products are not made in or imported into the United States, it could not find reasonably from Shepherd's testimony that all of defendants' sales infringed under § 271(a).

Plaintiff has failed to point to evidence that would sustain a finding that all of the accused products defendants sold between August 2006 and January 2012 would meet the requirements of § 271(a) or (f)(1). Because plaintiff did not adduce evidence regarding defendants' sales of any subset of products that would meet those requirements, defendants are entitled to judgment as a matter of law. In addition, because plaintiff did not seek a new trial on damages in the event the court reached this conclusion, that issue is waived.

ORDER

IT IS ORDERED that

1. The equitable defenses and counterclaims filed by defendants Life Technologies Corporation, Applied Biosystems, LLC and Invitrogen IP Holdings, Inc. are DISMISSED for defendants' failure to prove these defenses and counterclaims.

2. Defendants' motion for judgment as matter of law regarding 35 U.S.C. § 271(a) and (f)(1), dkt. #580, is GRANTED.

3. The following motions are DENIED as moot: (a) defendants' motion for judgment as a matter of law on lost profits calculations, dkt. #578; (b) defendants' motions for a new trial, dkt. ##580, 582, 584 and 586; (c) defendants' motion for judgment as a matter of law on nonwillfulness, dkt. #588; (d) plaintiff Promega Corporation's motion for an "exceptional case" finding under 36 U.S.C. § 285, dkt. #594; (e) plaintiff's motion for enhanced damages, dkt. #599; (f) plaintiff's

motion for a permanent injunction, dkt. #601; and (f) plaintiff's bill of costs. Dkt. #593.

4. The clerk of court is directed to enter judgment in favor of defendants and close this case.

Entered this 12th day of September, 2012.

BY THE COURT:
/s/
BARBARA B. CRABB
District Judge

APPENDIX C

NOTE: This order is nonprecedential

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

[Filed: 02/26/2015]

2013-1011, -1029, -1376

PROMEGA CORPORATION,
Plaintiff-Cross-Appellant,

AND

MAX-PLANCK-GESELLSCHAFT ZUR FORDERUNG
DER WISSENSCHAFTEN E.V.,
Plaintiff,

v.

LIFE TECHNOLOGIES CORPORATION, INVITROGEN IP
HOLDINGS, INC., AND APPLIED BIOSYSTEMS, LLC,
Defendants-Appellants.

Appeals from the United States District Court for the Western District of Wisconsin in No. 10-CV-0281, Chief Judge Barbara B. Crabb

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ON PETITION FOR PANEL REHEARING AND REHEARING EN BANC

Before PROST, Chief Judge, NEWMAN, MAYER,* LOURIE, DYK, MOORE, O'MALLEY, REYNA, WALLACH, TARANTO, CHEN, and HUGHES, Circuit Judges.

PER CURIAM.

ORDER

Appellants Life Technologies Corporation, et al., filed a combined petition for panel rehearing and rehearing en banc. A response to the petition was invited by the court and filed by cross-appellant Promega Corporation. The petition was first referred to the panel that heard the appeal, and thereafter the petition for rehearing en banc was referred to the circuit judges who are in regular active service.

Upon consideration thereof,

IT IS ORDERED THAT:

The petition for panel rehearing is denied.

The petition for rehearing en banc is denied.

The mandate of the court will issue on March 5, 2015.

FOR THE COURT

February 26, 2015
Date

/s/ Daniel E. O'Toole
Daniel E. O'Toole
Clerk of Court

* Circuit Judge Mayer participated only in the decision on the petition for panel rehearing.

RECORD AND BRIEFS

Supreme Court, U
FILED
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SUPREME COURT

No. 14-1538

IN THE

Supreme Court of the United States

LIFE TECHNOLOGIES CORPORATION; INVITROGEN IP HOLDINGS, INC.; APPLIED BIOSYSTEMS, LLC,

Petitioners,

v.

PROMEGA CORPORATION,

Respondent.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF IN OPPOSITION

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QUESTIONS PRESENTED

1. Whether the Federal Circuit correctly rejected petitioners' argument that the phrase "actively induce the combination of such components" in 35 U.S.C. § 271(f)(1) requires that a defendant "actively induce the combination of such components" *by an unrelated third party*, and therefore can never impose liability on a company that induces the combination at its own facility.

2. Whether the Federal Circuit correctly rejected petitioners' desired per se rule that one component can never constitute "a substantial portion of the components of a patented invention" under § 271(f)(1).

PARTIES TO THE PROCEEDINGS

Petitioners Life Technologies Corporation, Invitrogen IP Holdings, Inc., and Applied Biosystems were the defendants-appellants below.

Respondent Promega Corporation was the plaintiff-cross-appellant below.

Max-Planck Gesellschaft zur Forderung der Wissenschaften E.V. is the owner of U.S. Patent No. RE37,984 and was an involuntary plaintiff below.

CORPORATE DISCLOSURE STATEMENT

Respondent Promega Corporation has no parent corporation and no publicly held company owns 10% or more of its stock.

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INTRODUCTION

This Court's review is properly reserved for rare cases presenting a substantial conflict in authority or error on a critical issue of continuing importance. This is not such a case. The Federal Circuit's careful opinion correctly interpreted 35 U.S.C. § 271(f)(1) and rejected the atextual "third-party" and "multiple-component" bright line rules that the district court engrafted onto the statute at petitioners' urging. Petitioners' attack on the Federal Circuit's decision conflicts with the plain text of the statute, relies primarily on out-of-context statements from cases that did not address the questions presented, and asks the Court to create loopholes that Congress never intended. These reasons alone suffice to deny the petition.

Petitioners also fail to demonstrate that the questions presented are sufficiently important to justify review. No other Federal Circuit case had any need to decide either issue in the more than thirty years since § 271(f)(1) was enacted. Petitioners' first question presented would rarely make a difference in any case, because their proposal that inducement under § 271(f)(1) should require the involvement of a third party could be met in most cases through the involvement of a foreign subsidiary, affiliate, or employee—a path that was only precluded here through a case-specific (and incorrect) waiver ruling.

Petitioners' second question—an issue the dissent below did not even reach—is similarly unlikely to recur. The Federal Circuit's rejection of petitioners' desired bright-line rule that "a single component supplied from the United States, *no matter how important or central to the invention*, can never constitute 'a substantial portion of the components of a patented invention'" (Pet.

App. 34a (emphasis added)) does not mean that liability under § 271(f)(1) will be common when only a single component is supplied from the United States. To the contrary, the panel emphasized that this case involved a *fact-specific concession* from petitioners' own witness that the Taq polymerase they supply from the United States for inclusion in all of their kits was a "'main' and 'major'" component. Pet. App. 34a (quoting A6290-6291).[1] Further, the requirements that the infringer have knowledge of the patent and intend to cause the infringing act eliminate the risk that an unwitting supplier of a single component would be held liable under § 271(f)(1).

Finally, the interlocutory nature of the petition strongly counsels against review. The Federal Circuit remanded to the district court for further proceedings. Although Promega disagrees with petitioners' pending argument to the district court that a new trial should be held on the issue of past damages, the district court must still resolve certain post-trial motions that had been mooted by its original ruling.

For all these reasons, the petition should be denied.

STATEMENT

A. Petitioners' Infringement And The Jury's Verdict

Promega and petitioners are direct competitors in the market for DNA test kits based on the amplification of short tandem repeat ("STR") loci in DNA. Pet. App. 5a. STR loci are DNA sequences that are useful for identification because they vary among individuals.

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[1] Citations that begin with "A" refer to the Court of Appeals Joint Appendix.

Id. 3a. To compare DNA samples, the relevant DNA segments of interest are "amplified," meaning that copies are made to ensure that there is a sufficient sample for analysis. *Id.* The STR kits at issue in this case are used in a wide variety of applications, including forensic identification, paternity testing, medical treatment, and research. *Id.* 3a, 8a; A956.

Promega licensed petitioners to practice certain patents held or exclusively licensed by Promega, but required that petitioners limit their sales to specified fields. After petitioners embarked on a concerted campaign to expand their sales beyond the licensed fields,[2] Promega sued petitioners for infringement of five patents. The four asserted "Promega patents," which are no longer at issue, claimed DNA test kits for simultaneously analyzing multiple STR sequences comprising specific loci. The asserted "Tautz patent" (U.S. Reissue Patent No. RE37,984) claimed a broader set of kits for analyzing nucleotide sequences with a repeat motif. A408. Tautz was the first patent application to describe STR loci and is considered a foundational patent in STR technology. A1928-1929; A2004. Petitioners have never challenged the validity of the Tautz patent or denied that claim 42 of the Tautz patent reads on all of petitioners' accused kits. The Tautz patent has now expired, but Promega is still entitled to damages for petitioners' infringing use during the patent's term.

At summary judgment, the district court rejected petitioners' license and invalidity defenses and found that petitioners' unlicensed sales directly infringed claim 42 of the Tautz patent and many of the asserted

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[2] *See* A5505-5506; A6523-6536; A6540-6546; A6567-6570; A6578-6606; A6615-6635; A6639-6640; A9108; A9120-9126; A9153-9159.

claims in the Promega patents. Pet. App. 9a-10a. Damages and willfulness were then tried to a jury. At trial, Promega presented evidence of damages from petitioners' extensive infringing sales in the United States. It also presented evidence of damages due to petitioners' U.S. supply of a "substantial portion" of the components of claim 42 of the Tautz patent in a manner that induced combination by workers at petitioners' facility in the United Kingdom in a way that would infringe the Tautz patent if performed in this country. *See* 35 U.S.C. § 271(f)(1) ("Whoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.").

For example, petitioners' own witness conceded that, for every accused product, petitioners supplied Taq polymerase—which petitioners' witness admitted was a "'main' and 'major'" component (Pet. App. 34a)—from the United States. *Id.* & n.15. Petitioners also conceded that they supplied a second component from the United States for at least three kits that accounted for a large amount of their sales. A6282-6285.

The jury was asked to determine what proportion of petitioners' sales should be included in the damages calculation, and it found that all of petitioners' sales were for kits that infringed under § 271(a) or § 271(f)(1). Pet. App. 11a. The jury then subtracted the licensed sales and awarded Promega the profits that it lost as a result of petitioners' infringement. *Id.* The jury also found that petitioners' infringement was willful. *Id.*

B. The District Court's Decision

After trial, the district court set aside the jury verdict and granted petitioners judgment as a matter of law based on two novel theories. First, the court held that § 271(f)(1), which makes a defendant that ships overseas "all or a substantial portion of the components of a patented invention" liable for infringement if it induces the "combination of such components outside of the United States," requires the involvement of an *unrelated third party*, meaning that a company that ships components for assembly of the patented product abroad can avoid liability as long as it performs the overseas assembly itself. Pet. App. 23a; A2347-2351. The district court reached this conclusion reluctantly, admitting that "it makes little sense to prohibit a party from supplying another with components while permitting the party to supply itself." A2350.

Second, the district court held that supplying a single component (as opposed to two or more components) from the United States can *never* give rise to liability under § 271(f)(1). Pet. App. 23a; A2342-2345.

Having set aside the verdict based on its interpretation of § 271(f)(1), the district court declined to rule on petitioners' remaining JMOL motions on the ground that they were moot. A2353-2354.

C. The Court Of Appeals' Decision

The Federal Circuit rejected both of the rigid rules adopted by the district court. First, the court held that "no third party is required" for infringement under § 271(f)(1). Pet. App. 24a. The court noted that nothing in the statute "limit[s] the reach of § 271(f)(1) to 'third parties' or 'another.'" *Id.* 26a. To the contrary, the word "induce" can simply mean "'to bring about, to

cause,'" and this broader definition is appropriate because § 271(f)(1) "is written such that an activity—'the combination'—is the object of 'induce,' not a person." *Id.* 24a. The panel also noted that none of the cases that refer to inducing "another" in the context of fact patterns involving third parties actually had to consider the argument petitioners raise here, namely that a party otherwise liable under § 271(f)(1) could somehow escape liability by sending the same shipment for combination by its own foreign division or subsidiary. *Id.* 27a.

Second, the Federal Circuit held that "there are circumstances in which a party may be liable under § 271(f)(1) for supplying or causing to be supplied a single component for combination outside the United States" (Pet. App. 28a) and "disagree[d] with the district court that a single component supplied from the United States, no matter how important or central to the invention, can never constitute 'a substantial portion of the components of a patented invention'" (*id.* 34a). The court explained that "the ordinary meaning of 'substantial portion'" focuses on whether a component is "'important' or 'essential'" and does not "necessarily require[] a certain quantity." *Id.* 28a-29a. The panel then carefully analyzed and rejected petitioners' arguments, which misread the statute's reference to the "components" of a patented invention (*id.* 29a-30a), made an inapt comparison between § 271(f)(1) and (2) (*id.* 30a), and incorrectly interpreted two footnotes in *Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437 (2007) (*id.* 31a-33a). Finally, the panel held that substantial evidence—including an admission by petitioners' own witness—supported the jury's verdict under § 271(f)(1) in the particular circumstances of this case. *Id.* 33a-35a.

Chief Judge Prost dissented on the ground that § 271(f)(1)'s "requirement of active inducement ... necessarily mean[s] inducement of *another*." Pet. App. 39a. The dissent did not consider petitioners' proposed multiple-component rule. *Id.* 39a n.1.

Petitioners requested rehearing en banc, raising the same issues presented in their petition for certiorari. The Federal Circuit denied rehearing without dissent. Pet. App. 68a.

The case then returned to the district court where the parties briefed the proper scope of the proceedings on remand. Among other things, petitioners argued that the district court "should not reinstate the verdict" but rather should "initiate proceedings so that damages tied specifically to the Tautz patent can be determined afresh." Dkt. 796, at 16, No. 10-cv-281 (W.D. Wis. May 1, 2015). Petitioners also argued that, even if the damages award were reinstated as Promega seeks, "five outstanding Life JMOL motions ... must be decided" because "[n]one of these remaining motions have been mooted by the Federal Circuit's decision." *Id.* Promega disagrees with much of petitioners' argument, but agrees that "two post-trial motions remain to be decided after the damages verdict is reinstated." Dkt. 802, at 10, No. 10-cv-281 (W.D. Wis. May 15, 2015).

REASONS FOR DENYING THE PETITION

I. THE FEDERAL CIRCUIT'S REJECTION OF PETITIONERS' RIGID THIRD-PARTY INDUCEMENT RULE WAS CORRECT AND DOES NOT WARRANT REVIEW

A. The Federal Circuit Correctly Rejected Petitioners' Third-Party Inducement Rule

The Federal Circuit correctly rejected petitioners' argument—unsupported by statutory text, case law, or

common sense—that liability under § 271(f)(1) requires a third party's involvement. Section 271(f)(1) imposes liability on a person who supplies from the United States "all or a substantial portion of the components of a patented invention" "in such manner as to *actively induce the combination* of such components outside of the United States in a manner that would infringe" if done here. 35 U.S.C. § 271(f)(1) (emphasis added). Nothing in that language allows a company that would be liable for sending a shipment abroad for combination by a third party to escape liability merely by sending the same shipment abroad for combination by its own foreign operations.

Section 271(f)(1) does *not* state that a *third party* must be induced. Indeed, the object of the word "induce" is not even a person but a result ("induce *the combination*"). In that context, the word "induce" simply means "to bring ... about" or "cause." *E.g.*, *Black's Law Dictionary* 697 (5th ed. 1979) ("To bring on or about, to affect, cause"); *Black's Law Dictionary* 915 (4th ed. 1951) (same); II *Webster's Third New International Dictionary of the English Language Unabridged* 1154 (1976) ("to bring on or bring about"); *Webster's New Collegiate Dictionary* 583 (1981) ("effect, cause" (capitalization altered)); *American Heritage Dictionary of the English Language* 671 (1969) ("To stimulate the occurrence of; cause"); *Webster's Collegiate Dictionary* 512 (5th ed. 1946) ("To bring on or about; effect; cause); *see also* VII *Oxford English Dictionary* 888 (2d ed. 1989) ("To bring about, bring on, produce, cause, give rise to."); *American Heritage Dictionary* 657 (2d college ed. 1985) ("To bring about the occurrence of; cause.").

To be sure, one way to "bring about" or "cause" the combination could be by persuading an unrelated third

party to act. But the plain language of § 271(f)(1) is not limited to such cases, and petitioners' attempt to engraft such a limitation improperly rewrites the statute. As the Federal Circuit explained,

> The statute is written such that an activity—"the combination"—is the object of "induce," not a person. Had Congress wanted to limit "induce" to actions completed by two separate parties, it could easily have done so by assigning liability only where one party actively induced *another* "to combine the [patented] components." Yet, "another" is absent from § 271(f)(1). Instead, the focus of the statute is to induce "*the combination* of the components of the patented invention."

Pet. App. 24a-25a (second emphasis added; footnote omitted).

The absence of any statement that a third party must perform the combination or be induced stands in contrast to other provisions specifying the involvement of a third party. *See* 35 U.S.C. § 271(i) ("'offer to sell' *by a person other than the patentee*" (emphasis added)); *id.* § 271(d)(2) ("licens[ing] or authoriz[ing] *another* to perform" (emphasis added)); Pet. App. 24a n.9 (citing statutes that, unlike § 271(f)(1), are framed in terms of the inducement of another person).

Moreover, even if "induce" meant only "persuade" rather than "cause," there is nothing unusual about saying that a person persuaded or induced himself to engage in a course of action. *E.g.*, VII *Oxford English Dictionary* 887 ("I have the more willingly induced myself to this unequal task[.]"); 92 Cong. Rec. 4935 (1946) (Rep. Crawford) ("I cannot conscientiously induce myself to go along on such a program."); Charlotte Brontë,

Jane Eyre 345 (Simon & Schuster 2009) (1847) ("I could not persuade myself to affix them[.]"); William Shakespeare, *Othello*, act 2, sc. 3 ("I persuade myself, to speak the truth.").

The history and purpose of § 271(f)(1) likewise support the panel's interpretation. Section 271(f)(1) was enacted in response to this Court's decision in *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518 (1972). In *Deepsouth*, the Court held that a defendant could avoid direct infringement liability under § 271(a) by shipping the components of a patented invention for assembly abroad. *Id.* at 527-529. Congress responded by enacting § 271(f)(1) to prevent the circumvention of U.S. patent rights through this loophole. It is unreasonable to think that in closing one loophole for exporters, Congress intended to create a *new* loophole that eliminated liability only for those exporters *most complicit* in the foreign assembly—*i.e.*, those who export a substantial portion of the components and then perform the assembly *themselves*. The statute certainly gives no indication that Congress intended for it to be so fruitless and easily circumvented.

Petitioners' primary argument for their absurdly narrow reading of § 271(f)(1) relies on quotations from cases that refer to inducement of "another." Pet. 13-14 (citing *Global-Tech Appliances, Inc.* v. *SEB S.A.*, 131 S. Ct. 2060, 2065 (2011); *Metro-Goldwyn-Mayer Studios Inc.* v. *Grokster, Ltd.*, 545 U.S. 913, 935 (2006); and *Commil USA, LLC* v. *Cisco Sys., Inc.*, 135 S. Ct. 1920, 1924 (2015)); *see also* Pet. App. 39a-40a. But references to "another" in cases that happened to involve third parties are unremarkable and do not prejudge the question here. The cases cited by petitioners and the dissent below focused on the *mens rea* required for inducement liability; none actually considered whether

the presence of a third party was required for inducement. This Court has never held that induced infringement requires the presence of a third party.

The argument that the panel created a conflict between the meaning of "induce" in § 271(b) and (f) similarly rests on the false assumption that the issue of third-party involvement under § 271(b) is settled when, in fact, the question has never arisen.[3] Indeed, because inducement liability under § 271(b) presupposes a direct infringer under § 271(a), *Limelight Networks, Inc.* v. *Akamai Techs., Inc.*, 134 S. Ct. 2111, 2117 (2014), a party that induced its own direct infringement would also be liable as a direct infringer under § 271(a), making it unnecessary for the patentee to rely on an inducement theory. It is only when the induced act does not itself trigger direct infringement liability under § 271(a)—*e.g.*, when it occurs outside the United States—that liability for inducement of one's own conduct becomes important. But the fact that there has been no need to decide the full scope of what it means to induce infringement under § 271(b) does not mean that the scope of § 271(f)(1) should be artificially constrained.

Unable to find support in the language, history, or purpose of § 271(f)(1), petitioners turn to the presumption against extraterritoriality. Pet. 16-20. But the on-

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[3] Were it settled that a party could never induce its own acts, the entire § 271(b) issue decided in *Limelight Networks, Inc.* v. *Akamai Technologies, Inc.*, 134 S. Ct. 2111 (2014), would have been moot. In that case, it was undisputed that Limelight directly performed all but one or two steps of the patented methods, and thus the § 271(b) argument that Limelight induced *all* the steps of the patented method necessarily depended on the premise that, for most of those steps, Limelight was inducing its *own* performance of those steps.

ly activity regulated by § 271(f)(1) is domestic supply of "all or a substantial portion of the components of a patented invention" with the requisite intent that the patented invention be assembled. Nor does the presumption provide a sufficient basis for narrowing the scope of § 271(f)(1) in a way that would be both arbitrary and contrary to its text and purpose. For example, petitioners never explain why the principles behind the presumption would be served by holding a domestic actor liable for shipping a substantial portion of the components of a patented invention overseas for assembly by a *foreign* actor (as under petitioners' proposed rule) but allow immunity when the *domestic* actor that made the shipment also does the assembly abroad, thus establishing an even tighter connection to the United States. Far from applying the presumption against extraterritoriality, petitioners turn the presumption on its head.[4]

The Federal Circuit's decision was correct, and there is no need for further review.

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[4] Petitioners' amicus argues that the Court should use this case to "signal to the Federal Circuit to take the presumption against extraterritoriality seriously." Holbrook Amicus Br. 2. But the allegation that the Federal Circuit has a "penchant" for ignoring the presumption (*id.* 8) is belied by the numerous cases in which it has applied the presumption. *E.g.*, *Carnegie Mellon Univ.* v. *Marvell Tech. Group*, 2015 WL 4639309, at *19-20 (Fed. Cir. Aug. 4, 2015); *Halo Elecs., Inc.* v. *Pulse Elecs., Inc.*, 769 F.3d 1371, 1380 (Fed. Cir. 2014); *Cardiac Pacemakers, Inc.* v. *St. Jude Med., Inc.*, 576 F.3d 1348, 1365 (Fed. Cir. 2009). The assertion that the Federal Circuit "fail[ed] to mention" the presumption in this case (Holbrook Amicus Br. 10) is also wrong. *See* Pet. App. 27a n.10 ("We are mindful of the fact that the Supreme Court has cautioned against the extraterritorial application of United States law.").

B. Petitioners' Third-Party Inducement Argument Is Not Sufficiently Important To Warrant Review

In addition to their failure to identify any legal error, petitioners have not demonstrated that the question of third-party inducement under § 271(f)(1) is sufficiently important to warrant this Court's review. The question has arisen in only a handful of cases in the more than thirty years since § 271(f) was enacted, the Federal Circuit's decision is consistent with those prior cases, and petitioners and their amici offer no reason to think that the issue will come up with regularity in the future.

Petitioners' rhetoric about an "expansion" of liability and "economic dislocation[]" (Pet. 20, 21) ignores the fact that, far from broadening the scope of liability, the Federal Circuit's rejection of petitioners' third-party inducement argument simply applied the same interpretation as every district court that had considered the question in the decades before this case. *E.g.*, *Moore U.S.A. Inc.* v. *Standard Register Co.*, 144 F. Supp. 2d 188, 195 (W.D.N.Y. 2001) (finding that § 271(f)(1) "extends infringement liability to parties that supply 'all or a substantial portion of the components of a patented invention' for assembly outside the United States *regardless* of whether that party enlisted the aid of a third-party"); *T.D. Williamson, Inc.* v. *Laymon*, 723 F. Supp. 587, 592 (N.D. Okla. 1989) (rejecting defendant's argument that would "create a[] loophole allowing infringers to eschew dealing with foreign parties in order to avoid liability for 'active inducement'"), *aff'd*, 923 F.2d 871 (Fed. Cir. 1990). Petitioners have not presented any evidence that these prior decisions, which have been in place for years, have led to the type of negative consequences they predict.

Moreover, the issue is unlikely to arise with any frequency in the future. Even if "induce the combination" meant inducing the combination by "another" as petitioners suggest (Pet. 3), in most instances it would be relatively easy to identify a foreign subsidiary, division, affiliate, or employee that had been induced and could be the putative "third party." *E.g.*, *Orthokinetics, Inc.* v. *Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1578-1579 (Fed. Cir. 1986) (corporate officer inducement liability is "well settled"); *Jacobs Vehicle Sys., Inc.* v. *Pacific Diesel Brake Co.*, 424 F. Supp. 2d 388, 393, 395 (D. Conn. 2006) (inducement of subsidiary); *see also Kinetic Instruments, Inc.* v. *Lares*, 802 F. Supp. 976, 988 (S.D.N.Y. 1992); *Dow Chem. Co.* v. *Eby Mine Serv.*, 813 F. Supp. 749, 752 (D. Colo. 1993).

In fact, petitioners' argument regarding inducing "another" only arose because the district court incorrectly held that Promega waived its argument that the entity making the shipment from the United States and the foreign affiliates assembling the patented invention were in fact distinct entities. *See* A2364-2365.[5] The unique circumstance of the district court's waiver finding helps explain why only a handful of cases have ever addressed the question since § 271(f)(1) was enacted

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[5] As Promega explained in the Federal Circuit, the district court's waiver finding was incorrect. *See* Promega C.A. Br. 44 n.11; Promega C.A. Reply 16. Promega's JMOL opposition argued that § 271(f)(1) is not limited to combination by "only a third party," in the sense of an entirely unrelated party, but instead encompasses combination by related parties, such as "an offshore division of a company." A9251. Promega's post-judgment briefing further discussed the point. *E.g.*, A9317 ("Here, Defendants induced the conduct of other (albeit affiliated) corporate entities and their employees."); A9349 (noting the "distinction between a corporation and its divisions, subsidiaries, or employees").

and why it took three decades for the question to reach the Federal Circuit. In the vast majority of cases, a plaintiff will be able to identify an affiliate or unrelated third party who has been induced. And the typical availability of this third party, whether here or in future cases, greatly diminishes the purported importance of the question on which petitioners seek review.

The district court's case-specific waiver ruling also complicates the resolution of this particular case. The Federal Circuit had no reason to consider Promega's appeal of that erroneous waiver ruling in light of its interpretation of § 271(f)(1). That unresolved question, however, makes this case a bad vehicle for addressing petitioners' argument. One will search the petition in vain for a direct statement that the entity in the United Kingdom that combines petitioners' shipped components is actually the *same* legal entity that made the shipment from the United States, as opposed to an affiliated but still distinct legal entity. Nor have petitioners ever alleged that the employees who induced the combination were the same as the employees who completed the combination. Petitioners' argument about inducement of "another" thus depends on either (1) ignoring these affiliates through a case-specific waiver finding that the Federal Circuit did not review and would likely reverse, or (2) stretching even farther beyond the statutory text to require not only the involvement of "another" but also that the other person be a wholly unrelated third party.[6] This complicated procedural posture strongly counsels against review.

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[6] The Federal Circuit framed the latter point as whether "Congress intended § 271(f)(1) to hold companies liable for shipping components overseas to third parties, but not for shipping those same components overseas to themselves *or their foreign*

II. THE FEDERAL CIRCUIT'S REJECTION OF PETITIONERS' RIGID MULTIPLE-COMPONENT RULE WAS CORRECT AND DOES NOT WARRANT REVIEW

A. The Federal Circuit Correctly Rejected Petitioners' Multiple-Component Inducement Rule

At petitioners' urging, the district court overrode the jury's verdict on the ground that the supply of a single component from the United States—no matter how important—can *never* give rise to liability under § 271(f)(1). A2345. The Federal Circuit correctly rejected that rigid, unsupported rule. The statute does not say that a party must supply "components" from the United States; it says that a party must supply "all or a *substantial portion* of the components *of a patented invention*." 35 U.S.C. § 271(f)(1) (emphases added).

Substantiality is a fact question that requires a case-specific analysis of what is being supplied from the United States and its relationship to the patented invention across multiple dimensions, including not only quantity but also relative importance. Weighing the factors that inform that analysis properly remains the province of the jury. Here, the jury heard extensive evidence over eight days of trial about the technology at issue in the case, the Tautz patent, the components of the patented invention, the components of petitioners' infringing kits, and petitioners' business practices. For example, the jury heard about petitioners' effort to shift some (but not all) of their manufacturing operations from the United States to the United Kingdom. A6288-6289. It heard that, for every kit, petitioners

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subsidiaries." Pet. App. 27a (emphasis added). Petitioners, however, make no attempt to explain why, even if § 271(f)(1) required involvement of "another," an affiliate, subsidiary, or employee would not qualify, as it does under § 271(b).

continued to supply the polymerizing enzyme—Taq polymerase—from the United States. A2303-2304; A6282-6283. It heard petitioners' own witness admit that Taq was a "main" or "major" component. A6290-6291. It also heard that, for three kits that accounted for a large proportion of petitioners' sales, petitioners continued to supply *multiple* components from the United States. A6270-6285. Based on all the testimony and evidence, the jury concluded that petitioners had supplied "a substantial portion of the components of [the] patented invention" from the United States within the meaning of § 271(f)(1).

Faced with this case-specific factual finding carefully grounded in the record, petitioners' only hope for overriding the jury's verdict in this case is to engraft a rigid multiple-component requirement onto the statute. Petitioners thus argue that the word "substantial" should be given an exclusively "quantitative" meaning without regard to whether a component is "qualitatively 'important.'" Pet. 23. There is no error in the Federal Circuit's rejection of that approach.

The plain language of the statute does not mandate a strictly quantitative interpretation. Petitioners concede, as they must, that "substantial" can refer not just to quantity but also to the qualitative importance of what is being supplied. Pet. 23 ("the word 'substantial' can mean 'important'"); *Black's Law Dictionary* 1280 (5th ed. 1979) ("Of real worth and importance"); *Webster's Third New International Dictionary of the English Language Unabridged* 2280 (1971) ("an important or material matter, thing, or part"; "important, essential" (capitalization altered)); *see also* XVII *Oxford English Dictionary* 67 ("an essential part, point, or feature"); *American Heritage Dictionary* 1213 ("Considerable in importance, value, degree, amount, or extent").

Petitioners argue that the qualitative meaning of "substantial" should be disregarded because the term "substantial portion" is paired with the word "all." Pet. 23. However, the shipment of "all" components necessarily includes any particularly important components. This use of an all-encompassing word in terms of both quantity and importance does not signal an intent to use a strictly quantitative focus in deciding what constitutes a "substantial portion." Nor does the statute use expressly quantitative language, such as referring to "substantially all" or "a large number" of components. *E.g.*, *Moore*, 144 F. Supp. 2d at 195.

Indeed, petitioners' strictly quantitative focus would lead to absurd results. Under petitioners' interpretation, shipment of two unimportant components of a multi-component invention could give rise to liability under § 271(f)(1), but the shipment of one particularly important component of a two-component invention could not. There is no reason to think Congress wanted factfinders to blind themselves to the importance of a component in such a capricious manner.

Petitioners' interpretation of § 271(f)(1) also conflicts with decisions in other contexts recognizing that a single important act can sometimes constitute a "substantial portion" or "substantial part" of the whole. *See Setco Enters. Corp.* v. *Robbins*, 19 F.3d 1278, 1280, 1281 (8th Cir. 1994) (single event was "a substantial part of the events or omissions giving rise to the claim" because of its "importance" to the suit); *Goulding* v. *United States*, 957 F.2d 1420, 1426 (7th Cir. 1992) (a single entry is "a substantial portion of a [tax] return" if it forms "the dominant portion" of the return in its length or complexity); *First Nat'l Bank of Aberdeen* v. *County of Chehalis*, 166 U.S. 440, 457 (1897) ("single and separate operations" formed "substantial parts" of the

banking business); *see also American Heritage Dictionary of the English Language* 1412 (3d ed. 1996) (a "portion" is "a part of a whole").

Petitioners' reliance on § 271(f)(2) is also misplaced. Section 271(f)(2) focuses on the supply of "*any component* of a patented invention that is especially made or especially adapted for use in the [patented] invention," while § 271(f)(1) focuses on the supply of "*all or a substantial portion* of the components of a patented invention." Section 271(f)(1)'s analogue to the "component" supplied in § 271(f)(2) is thus not "components" but "all or a substantial portion." No inference can therefore be drawn from the distinction between "component" and "components," since the terms are used in different contexts.

Petitioners also ignore the Dictionary Act, which provides that "unless the context indicates otherwise," "words importing the plural include the singular." 1 U.S.C. § 1; *see also, e.g., United States* v. *Foote*, 413 F.3d 1240, 1246 (10th Cir. 2005) (trafficking in a single "good" violated statute regarding trafficking in "goods"); *Smith* v. *Zachary*, 255 F.3d 446, 449 (7th Cir. 2001) ("the distinction between plural and singular words is not scrupulously observed in legislative language").

Here, the statutory context reinforces that § 271(f)(1)'s use of the word "components" was not intended to impose a rigid multiple-component requirement. The first mention of "components" in § 271(f)(1) refers not to what is being supplied from the United States but rather to the "components *of a patented invention*." 35 U.S.C. § 271(f)(1) (emphasis added). Likewise, as the panel correctly held, "[s]ubsequent references within the statute to 'such components' are

clearly references to 'the components of a patented invention,' not to what must be 'supplied' by the alleged infringer." Pet. App. 29a. For example, § 271(f)(1)'s reference to the "combination of such components outside of the United States *in a manner that would infringe* the patent if such combination occurred within the United States" (emphasis added) must be a combination of *all* the components *of the patented invention*; otherwise the combination would not "infringe." Similarly, the phrase "where such components are uncombined in whole or in part" indicates that either all of the invention's components are uncombined ("in whole") or some remain uncombined ("in part") at the time that one or more components are supplied from the United States. Indeed, if "such components ... uncombined in whole or in part" meant only components supplied from the United States rather than all the components of the patented invention, companies like petitioners could avoid liability under § 271(f)(1) simply by combining the U.S.-supplied components together into a single component before shipping it abroad for further assembly into the patented invention.

Moreover, even if the word "components" referred to what was being supplied from the United States, § 271(f)(1)'s need to encompass the possibility of "all" components being supplied from the United States would preclude it from referring to a singular U.S.-supplied "component" in its subsequent clauses. Thus, no inference can be drawn that supply of more than one component is always required.

Petitioners are also incorrect when they argue that the panel's interpretation of § 271(f)(1) "trivializes" § 271(f)(2). Pet. 25. To be sure, the supply of a component "especially made or especially adapted" for use in an invention *may* infringe under either provision of

§ 271(f) if it is *also* sufficiently important to qualify as a "substantial portion" *and* is supplied in a manner that actively induces the combination of the invention's components. But similar overlap exists when the supply of a component "especially made or especially adapted" for use in an invention qualifies as both contributory infringement under § 271(c) and inducement of infringement under § 271(b). Just as § 271(b) has not "trivialize[d]" § 271(c), the panel's interpretation of § 271(f)(1) has not "trivialize[d]" § 271(f)(2).

Petitioners also continue to over-read *Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437 (2007). The Federal Circuit considered the same sentence from *Microsoft* that petitioners quote (Pet. 26), but noted that "Life-Tech ignores the next two sentences of the Court's opinion," which tend to "support the conclusion that § 271(f)(1) may apply when a single 'component' is involved." Pet. App. 31a, 32a. Remarkably, petitioners still do not acknowledge those clarifying sentences. Instead, they address the separate fact that *Microsoft* involved one component, and thus could not have proceeded under § 271(f)(1) if petitioners' theory were correct, by arguing that "[t]he parties in *Microsoft* did not argue that only a single component was involved, and the Court accordingly did not consider the issue." Pet. 26. Petitioners' own argument, however, undermines their attempt to rely on out-of-context dicta from *Microsoft* on an issue that petitioners admit the Court "did not consider."[7]

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[7] *Microsoft* expressly stated that the entire footnote containing the sentence that petitioners quote was irrelevant to its analysis. 550 U.S. at 454 n.16 ("that distinction does not affect our analysis"). Although petitioners urge the Court to suspend its independent judgment and follow ambiguous, out-of-context dicta, this Court has directed the opposite. *See Pacific Operators Offshore,*

Nor is there any conflict between the panel decision and *Microsoft*'s discussion of the presumption against extraterritoriality. In *Microsoft*, the components combined abroad were also made abroad, and although the original disk containing the software originated in the United States, all the copies of that software that were combined with the other components were made abroad. 550 U.S. at 452-453. In contrast, petitioners' conduct is domestic and directly links each kit to a physical component supplied from the United States. The panel's interpretation of § 271(f)(1) thus does not "'convert[] a single act of supply from the United States into a springboard for liability'" for an unlimited number of downstream copies made abroad, as was the concern in *Microsoft*. *Id.* at 456. It merely attaches liability to petitioners' conduct *within the United States*, as Congress intended.

B. Petitioners' Multiple-Component Argument Is Not Sufficiently Important To Warrant Review

On top of petitioners' failure to identify any error in the Federal Circuit's decision, petitioners have not demonstrated that the rejection of their attempt to impose a multiple-component rule is sufficiently important to warrant review. The panel merely decided that "there are *circumstances* in which a party *may* be liable under § 271(f)(1) for supplying or causing to be supplied a single component for combination outside the United States." Pet. App. 28a (emphases added). More specifically, the panel rejected the rigid rule that "a single component supplied from the United States,

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LLP v. *Valladolid*, 132 S. Ct. 680, 688 (2012) (refusing to rely upon an "ambiguous comment ... made without analysis in dicta" in a prior Supreme Court decision).

no matter how important or central to the invention, can never constitute 'a substantial portion of the components of a patented invention.'" *Id.* 34a (emphasis added). It is no surprise that not a single member of the Federal Circuit dissented from the denial of rehearing en banc on that limited holding.

Nothing in the panel's rejection of petitioners' *per se* rule implies that liability for supplying a single component will be common. To the contrary, the panel emphasized that this case involved a *fact-specific concession* from petitioners' own witness that the Taq polymerase they supply from the United States for inclusion in all of their kits was a "'main' and 'major'" component. Pet. App. 34a (quoting A6290-6291).

Petitioners entirely ignore this concession when they argue that the panel required "nothing more than a component without which the invention 'would be inoperable'" and "made virtually *every* component of a patented invention, by itself, a 'substantial portion of the components' of that invention." Pet. 22-23. In reality, the panel's statement that the "Tautz patent would be inoperable" without Taq polymerase was immediately followed by the statement that "LifeTech's own witness admitted that the *Taq* polymerase is one of the 'main' and 'major' components of the accused kits." Pet. App. 34a. The panel also emphasized that its ruling was "based on the facts of this particular case." *Id.* 28a.

This focus on the specific facts of this case, and petitioners' concession in particular, shows that purported fears of widespread liability for shipping a single component are unfounded. Petitioners have presented no evidence of an upsurge in § 271(f)(1) rulings since the Federal Circuit decision was released. Nor is there

likely to be one under a proper understanding of that decision.

In addition, liability under § 271(f)(1) attaches only when an infringer had knowledge of the patent and intended to cause the infringing act. *Liquid Dynamics Corp.* v. *Vaughan Co.*, 449 F.3d 1209, 1222 (Fed. Cir. 2006). Here, "whether [petitioners] exhibited the necessary knowledge and intent ... is not contested." Pet. App. 34a. But those requirements will provide substantial protection to potential defendants in other cases and eliminate the risk that an unwitting supplier of a component would be held liable under § 271(f)(1).

In sum, there is a wide gulf between the Federal Circuit's rejection of petitioners' rigid multiple-component rule on fact-specific grounds and the imposition of liability in any meaningful number of future cases. This Court should not spend its limited time reviewing the case based on petitioners' speculative fear that the panel's decision might be applied too broadly. If the decision were to be misapplied, the Federal Circuit is well positioned to address any problems in the first instance.

Finally, petitioners' statements about "incentives to relocate" manufacturing operations offshore ring hollow in the context of this case. Pet. 28; *see also* Agilent Amicus Br. 16-17. Promega and petitioners are direct competitors in a two-supplier market for STR kits. Although petitioners shifted some of their operations overseas, Promega manufactures its kits in the United States. The jury verdict in this case simply compensated Promega for the sales it would have made on its U.S.-manufactured kits had petitioners not infringed. Petitioners' concerns about protecting U.S. manufacturing are more properly addressed to Congress than

to this Court. But were that the issue, it actually cuts against petitioners.

III. The Interlocutory Posture Of The Case Counsels Against Review

The interlocutory posture of the case further counsels against review. *E.g.*, *Brotherhood of Locomotive Firemen & Enginemen* v. *Bangor & Aroostook R.R.*, 389 U.S. 327, 328 (1967) (per curiam); *see also Virginia Military Inst.* v. *United States*, 508 U.S. 946, 946 (1993) (Scalia, J., respecting the denial of certiorari) ("We generally await final judgment in the lower courts before exercising our certiorari jurisdiction."); Stephen M. Shapiro et al., *Supreme Court Practice* 282-283 & n.72 (10th ed. 2013).

The Federal Circuit invalidated the asserted claims of four of the five patents that petitioners were found to infringe and "remand[ed] to the district court to determine damages due to [petitioners'] infringement of the Tautz patent." Pet. App. 38a. Petitioners have argued on remand that a full trial on past damages attributable to the Tautz patent is necessary. Promega disagrees and has argued that the jury's damages award can be reinstated because it did not depend on the number of patents infringed. But if petitioners were to receive the new trial they request, it could substantially change the posture of the case. On the first question presented, it would clarify whether, on the facts of this case, petitioners are relying on the theory that a wholly unrelated third party—as opposed to a foreign affiliate—must assemble the components of the patented invention. On the second question presented, the record at a new trial would include bills of materials that petitioners produced for the first time after trial. *See* A9358-9361; Dkt. 728, at 6-11, No. 10-cv-281 (W.D.

Wis. Dec. 19, 2012). Petitioners have already conceded that their multiple-component rule does not apply to three kits accounting for a large number of sales for which they supplied multiple components from the United States. A6282-6285. The newly discovered evidence could largely moot petitioners' multiple-component argument for the other kits. *See* Dkt. 762, at 8-9, 12, No. 10-cv-281 (W.D. Wis. Mar. 1, 2013).

Moreover, even if the jury's damages award is reinstated without a new trial on past damages (as it should be), Promega has acknowledged that petitioners are entitled to resolution of two outstanding JMOL motions that were previously denied as moot. At petitioners' urging, the district court has stayed proceedings pending the disposition of this petition for certiorari. But this petition is premature in light of the issues that remain to be resolved in the district court.

CONCLUSION

The petition for a writ of certiorari should be denied.

Respectfully submitted.

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IN THE

Supreme Court of the United States

LIFE TECHNOLOGIES CORPORATION; INVITROGEN IP HOLDINGS, INC.; APPLIED BIOSYSTEMS, LLC,

Petitioners,

v.

PROMEGA CORPORATION,

Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

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INTRODUCTION

The Brief in Opposition ("Opposition" or "Opp.") urges this Court to deny review by simply ignoring the most glaring flaws in the Federal Circuit's decision, and this Court's prior decisions that contradict this ruling. It defends an extraordinarily broad reading of § 271(f), but has almost nothing to say about the presumption against extraterritoriality of U.S. patent law that has led this Court to insist that § 271(f) be read narrowly. *Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437, 442 (2007).

The Opposition ignores the obligation to read § 271(f) narrowly because the rationales behind the Federal Circuit's broad ruling are so weak. The Opposition contends that a single entity can "actively induce" itself to infringe because "induce" in § 271(f)(1) simply means "cause." Opp. 8. But the same phrase—"actively induce"—appears in § 271(b) and quite plainly does not mean "cause," but instead "move by persuasion or influence," an action inherently directed at a third party. *Global-Tech Appliances, Inc.* v. *SEB S.A.*, 131 S. Ct. 2060, 2065 (2011). Similarly, the Opposition insists that § 271(f)(1)'s requirement that a party supply "a substantial portion of the components of a patented invention" is satisfied by supplying just a single, commodity component of a multi-component invention. But it never explains why Congress would have continued in the very next subsection—§ 271(f)(2)—to specify when the supply from the United States of a single component of a patented invention can result in infringement liability. And the Opposition refuses to take seriously this Court's recognition that Congress intended § 271(f)(1) and § 271(f)(2) to "differ, among other things, on the

quantity of components," *Microsoft*, 550 U.S. at 454 n.16.

The Opposition's remaining arguments fare no better. It claims that the two questions presented are unimportant because they will not frequently recur, but both have already arisen in multiple lower court cases, and will only become more prominent now that the Federal Circuit has vastly expanded § 271(f)(1). Further, that proceedings will continue if this Court denies review is irrelevant, because the issues pending on remand will not concern the pure questions of statutory interpretation presented in the petition. Indeed, proceedings in the district court have been stayed for—and could be rendered largely moot by—this Court's decision.

This case is thus an ideal candidate for this Court's review. The Federal Circuit's decision has not textual support, ignores or contradicts this Court's prior decisions, and raises questions of substantial commercial significance by creating a prospect of worldwide patent liability for a broad range of U.S.-based component suppliers.

I. THE FEDERAL CIRCUIT'S HOLDING THAT A SINGLE ENTITY CAN "ACTIVELY INDUCE" ITSELF TO INFRINGE IS ERRONEOUS AND IMPORTANT.

1. The word "induce" in § 271(b) means "[t]o lead on; to influence; to prevail on; to move by persuasion or influence." *Global-Tech*, 131 S. Ct. at 2065 (alteration in original) (quoting *Webster's New International Dictionary* 1269 (2d ed. 1945)); see also, *e.g.*, *Black's Law Dictionary* 697 (5th ed. 1979) ("to influence to an act or course of conduct, lead by persuasion or reasoning"). The Opposition argues that *Global-Tech* does not mean that inducement liability under

§ 271(b) requires third-party involvement because "the question has never arisen." Opp. 11. But *why* the question has never arisen is revealing. As the Opposition explains, inducing oneself cannot matter when all the conduct is domestic, because direct infringement liability under § 271(a) covers the conduct. *Id.* In other words, Congress used the phrase "actively induces" to refer to multi-party conduct that would otherwise escape infringement liability, not to single-party conduct (which was already fully covered). So when Congress imported the phrase from § 271(b) into § 271(f)(1), see Pet. 13, it imported the phrase's multi-party purpose. There is no justification for reading the same phrase in these two subsections of a single statute to have different meanings. *Powerex Corp.* v. *Reliant Energy Servs., Inc.*, 551 U.S. 224, 232 (2007).

The "history and purpose of § 271(f)(1)" fully support reading the phrase "actively induce" to concern multi-party conduct, contrary to the Opposition's suggestion. Opp. 10. Section 271(f)(1) was enacted to provide an exception to the general rule applied in *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518 (1972): that inducement liability requires an act of direct infringement. See *Limelight Networks, Inc.* v. *Akamai Techs., Inc.*, 134 S. Ct. 2111, 2118 (2014). Under § 271(f)(1), a domestic supplier of components is as an infringer even without any act of direct infringement, so long as the supplier "actively induces" conduct abroad that would infringe if done in the U.S. So although § 271(f)(1) supplanted the requirement of direct infringement, it left untouched the basic requirement of *inducement*. Section 271(f)(1) remains, like § 271(b), fundamentally a regulation of multi-party interactions, and nothing in the text or purpose

of § 271(f) provides any reason to interpret the statute otherwise.

When Congress adopted § 271(f), it targeted a specific perceived loophole in the patent laws created by *Deepsouth*: the possibility that a domestic supplier would send to foreign third-parties all or a substantial portion of the components of the invention for combination overseas. The Opposition asserts that it is "unreasonable to think that in closing one loophole for exporters, Congress intended to create a new loophole that eliminated liability only for those exporters . . . [who] perform the [foreign] assembly themselves." Opp. 10 (emphases omitted). But it is entirely reasonable to interpret the statute as creating the narrow fix that Congress intended. A U.S. manufacturer that sells its product to foreign customers in unassembled parts (which is what happened in *Deepsouth*) is evading U.S. patent law. A multinational company that manufactures and sells products abroad with a single component sourced from its U.S. facility is not. Giving the phrase "actively induce" its ordinary meaning creates no loophole. But even if respondent had identified an "arguable" loophole, as this Court has explained, "[h]aving attended to the gap made evident in *Deepsouth*, Congress did not address other arguable gaps," which "our precedent leads us to leave in Congress' court." *Microsoft*, 550 U.S. at 457–58.

The history and purpose behind the adoption of § 271(f) also answers the Opposition's strained efforts to show that "there is nothing unusual about saying that a person persuaded or induced himself to engage in a course of action." Opp. 9. A statute is not a work of literature meant to reveal the internal psychological struggles of characters, or even the conflicting impulses of a legislator considering a vote. It is an ef-

fort to solve problems and to delineate clearly the contours of permissible and impermissible conduct. Congress was addressing a specific problem with § 271(f)—domestic supply to foreign third-parties for foreign assembly. In the context of a statute directed at commercial conduct, it "makes little sense in common parlance to say that someone 'induced himself'"—and even less to say that someone *actively* induced himself. Pet. App. 60a. To "actively induce" naturally requires a third party who is "move[d] by persuasion or influence." *Global-Tech*, 131 S. Ct. at 2065.

2. Like the Federal Circuit below, the Opposition also brushes aside the presumption against extraterritoriality and the narrow construction of § 271(f) that the presumption requires. *Microsoft* rejected the same argument the Opposition makes here—that the "presumption holds no sway here given that § 271(f), by its terms, applies only to domestic conduct, *i.e.*, to the supply of a patented invention's components 'from the United States.'" 550 U.S. at 456; see Opp. 12. Here, as in *Microsoft*, foreign activity is essential to liability under § 271(f). Supplying components from the United States is not infringement unless it "actively induce[s] the combination of such components *outside of the United States* in a manner that would infringe the patent if such combination occurred within the United States." 35 U.S.C. § 271(f)(1) (emphasis added); compare *id.* § 271(a) (whoever . . . makes, uses, offers to sell, or sells any patented invention *within the United States* . . . infringes the patent") (emphasis added). That is why the Federal Circuit's interpretation creates an "obvious" risk of "incompatibility with the applicable laws of other countries," which may for instance have refused to issue a patent on the same product. *Morrison* v. *Nat'l*

Austl. Bank Ltd., 561 U.S. 247, 255, 269 (2010); see Pet. 29-30. Section 271(f) creates liability based, in significant part, on conduct abroad, and so "§ 271(f) is an exception to the general rule that our patent law does not apply extraterritorially" and courts should "resist giving the language in which Congress cast § 271(f) an expansive interpretation." 550 U.S. at 442.

3. Contrary to the Opposition's contention, Opp. 15, the petition presents a recurring and important question. Indeed, the Opposition itself points to cases where the issue has already arisen in the lower courts. *Id.* at 13 (citing cases); see also, *e.g.*, *WesternGeco LLC* v. *ION Geophysical Corp.*, 876 F. Supp. 2d 857, 900-05 (S.D. Tex. 2012); *Key Energy Servs.* v. *C.C. Forbes, LLC*, 2011 WL 7429433 (E.D. Tex. June 3, 2011). Moreover, now that the Federal Circuit has thrown open the doors to potential infringement liability for worldwide sales of products that include practically *any* component sourced from the U.S., there is every reason to believe the issue will become more commonplace.

Further, Respondent's claim that it is "easy" to identify a third party being induced is called into doubt by its choice not to do so below. Opp. 14; see A2364-65 (district court holding that Respondent "forfeited" the argument by failing to raise it until rehearing). The Opposition incorrectly suggests that this waived argument presents a vehicle problem. Opp. 15. The Federal Circuit clearly held that as a matter of law "no third party is required" for inducement liability under § 271(f)(1). Pet. App. 24a. Thus, the question whether a single entity can induce itself to infringe under § 271(f)(1) is squarely and cleanly presented here. There is no need for this Court to consider whether related corporate entities, potential-

ly under the control of a common parent, might be deemed liable for "inducing" each other, a question which respondents' cases do not answer. The Opposition's contention that the district court abused its discretion in finding the argument waived could easily be left to the Federal Circuit on remand. The Federal Circuit fashioned a clear, over-broad rule of law that is ripe for review. There is no obstacle to this Court's correction of the Federal Circuit's ruling that a party can induce itself under § 271(f).

II. THE FEDERAL CIRCUIT'S HOLDING THAT LIABILITY CAN BE IMPOSED UNDER SECTION 271(f)(1) FOR THE SUPPLY OF A SINGLE COMMODITY COMPONENT IS AN INCORRECT AND IMPORTANT RULING OF LAW.

1. The Federal Circuit ruled that the term "all or a substantial portion of a patented invention" in § 271(f)(1) can refer to "a single important or essential component." Pet. App. 28a–29a. But such a reading—in addition to making a hash of the text of § 271(f)(1)—simply cannot account for § 271(f)(2), which specifically instructs parties and courts on the standards for determining infringement liability for the domestic supply of a single component of a patented invention.

For instance, the Opposition repeatedly asserts that the district court's interpretation will create "loopholes" in the statute, see Opp. 1, 10, but § 271(f)(2) creates liability for the supply of a single component, then limits it to a component that is "not a staple article or commodity of commerce." 35 U.S.C. § 271(f)(2). Additionally, the Opposition claims that § 271(f)(1)'s use of the plural phrase "where such components are uncombined" does not mean that multiple components must be supplied

because it "refer[s] to 'the components of a patented invention,' not to what must be 'supplied' by the alleged infringer." Opp. 19-20 (citing Pet. App. 29a). But § 271(f)(2) "employs the same phrasing" while using the singular. Pet. App. 55a; see 1 U.S.C. § 1 (plural terms include the singular "*unless the context indicates otherwise*") (emphasis added). The singular phrase "where such component is uncombined" must refer to the component supplied from the United States, not to all components of the invention. Pet. App. 55a. Otherwise, § 271(f)(2) would be illogical, because a single-component invention could never be "uncombined." 35 U.S.C. § 271(f)(2). The Opposition's interpretation thus implausibly requires giving disparate meaning to parallel language in two subsections of the statute that Congress drafted and added together.

Even read on its own, "all or a substantial portion" in § 271(f)(1) clearly refers to the quantity of components supplied, not their qualitative importance. See Pet. 21-23. "All" clearly refers to quantity, and respondent cannot explain why Congress would employ "substantial" in a qualitative sense right after signaling that it is referring to quantity. The Opposition argues that had Congress wanted to indicate it was speaking quantitatively, it would have used a phrase like "substantially all." Opp. 18. How "all or a substantial portion" is any less quantitative than "substantially all" is left to the imagination.

That the text on its face refers to quantity is confirmed by this Court's observation in *Microsoft* that § 271(f)(1) and (f)(2) "differ, among other things, on the quantity of components that must be 'supplie[d] . . . from the United States.'" 550 U.S. at

454 n.16 (alteration and omission in original).[1] Like the Federal Circuit below, the Opposition lightly dismisses this statement as dicta, Opp. 21, but the considered dicta of this Court demands far greater respect from the lower courts.

2. The Opposition next contends that this issue lacks importance because it will not be "common" for the supply of a single component to lead to liability under § 271(f)(1), and that the imposition of liability here was based on a "fact-specific concession." Opp. 23 (emphasis omitted). This mischaracterizes both the Federal Circuit's ruling and the record.

The Federal Circuit plainly held that "substantial" in § 271(f)(1) means "important or essential," Pet. App. 28a-29a, and further held that a component is "important" if the invention "would be inoperable" without it, *id.* at 34a. These are legal constructions of the statute, not dependent on the record, and readily applicable to other cases. Their effect is to broaden the statute considerably so that nearly any component of an invention would qualify, because an invention is nothing more than the sum of the parts that make the invention work. That respondent tries to limit the ruling by tying it to a supposed factual concession only underscores how indefensible that ruling is. The Opposition emphasizes a witness's testimony that *Taq* polymerase is a "'main' and 'major' component" of the kits. But it fails to note that the same witness characterized no fewer than four out of the five components of the accused kits as

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[1] The Opposition faults Petitioners for "ignor[ing] the next two sentences" of Microsoft, Opp. 21, but fails to explain how those sentences support its interpretation of § 271(f)(1). While the sentences refer to the term "component" in the singular, they do not suggest that a single component is sufficient for liability under § 271(f)(1).

"main" and "major." A6290-91. And the Opposition does not dispute that the subtraction of *any* one of these components would render the kit "inoperable." See Pet. 5-6, 22. The record does not narrow the breadth of the Federal Circuit's ruling, but only underscores how far-reaching it is.

None of this is to deny that "substantiality" can raise questions of fact. Opp. 16. But what matters here is what, as a matter of law, can count as "substantial." The Federal Circuit has affirmed a jury verdict based on its view that a single, commodity component of an invention can be "substantial" if the invention is inoperable without it. That ruling warrants review.

The ruling's importance is not diminished by the knowledge requirement for § 271(f)(1). Respondent asserts that the knowledge requirement "will provide substantial protection" to component manufacturers. Opp. 24. But patentees could easily eliminate any such protection by sending notification letters to manufacturers of commodity components, and "companies can ill afford the time or resources to undertake a comprehensive component-by-component patent risk analysis when making decisions to source components." Agilent Br. 17. The Federal Circuit's holding will put U.S. component manufacturers at a serious competitive disadvantage in international markets, an anomalous result that could not have been Congress's intent. See Pet. 28-30. This Court's review of this important legal question is urgently needed.

III. THE PROCEDURAL POSTURE OF THE CASE PROVIDES NO BASIS TO DENY REVIEW.

Finally, the Opposition contends that "the interlocutory posture of the case counsels against review," Opp. 25 (capitalization omitted), but such a posture presents "no impediment to certiorari where the opinion of the court below has decided an important issue, otherwise worthy of review, and Supreme Court intervention may serve to hasten or finally resolve the litigation." Shapiro & Geller, *Supreme Court Practice* 285 (10th ed. 2013); see, *e.g.*, *F. Hoffman-La Roche Ltd.* v. *Empagran S.A.*, 542 U.S. 155 (2004). That is precisely the situation here: the questions presented are important issues of statutory interpretation warranting this Court's review. Nothing that could happen during further proceedings will in any way impact the rules of law the Federal Circuit has adopted and that warrant review.

Moreover, this Court's review could render the remand proceedings largely unnecessary, as the remand primarily involves damages questions and additional post-trial motions that had been mooted by the district court's decision. And the lower court proceedings are particularly unproblematic because they have been stayed pending this Court's consideration. Shapiro & Geller, *supra*, at 285; see *Promega Corp.* v. *Life Techs. Corp.*, 3:10-cv-00281 (W.D. Wis. July 15, 2015) (order granting motion to stay) (ECF No. 811). The procedural posture of the case presents no vehicle issue, and review should be granted.

CONCLUSION

For these reasons and those stated in the petition, the petition for a writ of certiorari should be granted.

Respectfully submitted,

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In the Supreme Court of the United States

LIFE TECHNOLOGIES CORPORATION, ET AL.,
PETITIONERS

v.

PROMEGA CORPORATION

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF FOR THE UNITED STATES AS AMICUS CURIAE

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QUESTIONS PRESENTED

The Patent Act prohibits the "suppl[y] * * * from the United States * * * [of] all or a substantial portion of the components of a patented invention * * * in such manner as to actively induce the combination of such components outside of the United States." 35 U.S.C. 271(f)(1). The questions presented are as follows:

1. Whether a corporation can be held liable for "actively induc[ing] the combination" of the components of a patented invention when the same legal entity both supplies the components from the United States and combines the components abroad.

2. Whether a supplier can be held liable for providing "all or a substantial portion of the components of a patented invention" from the United States when the supplier ships for combination abroad only a single commodity component of a multi-component invention.

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BRIEF FOR THE UNITED STATES AS AMICUS CURIAE

INTEREST OF THE UNITED STATES

This brief is filed in response to the Court's order inviting the Solicitor General to express the views of the United States. In the view of the United States, the petition for a writ of certiorari should be granted, limited to the second question presented.

STATEMENT

1. In general, "whoever without authority makes * * * within the United States * * * any patented invention" is liable for patent infringement. 35 U.S.C. 271(a). In *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518 (1972), this Court held that a company did not violate Section 271(a) by manufacturing all of the component parts of a patented machine in the United States and then shipping those parts overseas for final assembly by a customer. *Id.* at 523-524. This Court explained that "it is not an infringement [under

Section 271(a)] to make or use a patented product outside of the United States," *id.* at 527, and that the invention was not made until its components were combined abroad, *id.* at 528-529.

Congress responded to *Deepsouth* by enacting 35 U.S.C. 271(f). Section 271(f)(1) provides that it is infringement to supply from the United States "all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States." 35 U.S.C. 271(f)(1). Section 271(f)(2) provides that it is infringement to supply from the United States "any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, * * * intending that such component will be combined outside of the United States." 35 U.S.C. 271(f)(2).

2. a. Respondent is the exclusive licensee of a patent claiming a kit for copying short repeated sequences of DNA. Pet. App. 5a.[1] The kit replicates certain short sequences of DNA in order to enable analysts to determine whether a DNA sample came from a known individual. *Id.* at 3a. The kits are made

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[1] Initially, five patents were at issue in this suit. Br. in Opp. 3. The Federal Circuit held that four of the patents were invalid. Pet. 6 n.1; Pet. App. 13a-22a. The remaining patent has expired, but the Patent Act permits a patentee or exclusive licensee to seek damages for any acts of infringement that occurred during the patent's term and within the six years preceding the suit. 35 U.S.C. 286; Br. in Opp. 3.

up of at least five components: (1) a mix of primers, which mark the start and finish of the locations in the sample DNA to be copied; (2) a reaction mix, which contains the nucleotide building blocks that will produce the copied DNA; (3) a buffer solution, which provides the background biochemical conditions necessary for copying; (4) an enzyme, generally *Taq* polymerase, that catalyzes the reaction that actually assembles the nucleotides into copies of the marked locations; and (5) control DNA to verify the accuracy of the copies. *Id.* at 8a.

Respondent granted petitioners a license to sell the patented kit for "activities relating to legal proceedings" but not for other uses. Pet. App. 9a & n.4. After petitioners manufactured and sold the kits for unlicensed purposes, such as clinical diagnostics, respondent filed this action for patent infringement, seeking damages for both domestic and global sales of infringing kits. *Id.* at 44a-45a.

As relevant here, respondent alleged that petitioners' global kit sales constituted infringement under Section 271(f)(1) because petitioners had supplied one component of the kits—the *Taq* polymerase—from the United States to their manufacturing facility in the United Kingdom, which manufactured the remaining four components and assembled the patented kits. Pet. App. 34a & n.15. Respondent did not allege infringement under Section 271(f)(2) because it is undisputed that the *Taq* polymerase is "a staple article or commodity of commerce suitable for substantial non-infringing use." *Id.* at 30a n.14 (quoting 35 U.S.C. 271(f)(2)). After a trial, the jury returned a verdict in favor of respondent and awarded more than $50 million in damages. *Id.* at 45a, 50a.

b. Petitioners moved for judgment as a matter of law, asserting that Section 271(f)(1) did not apply to their conduct for two reasons. First, petitioners argued that they had not supplied "all or a substantial portion of the components" of the invention from the United States because they had shipped only a single component from this country. Pet. App. 51a. Second, relying on Section 271(f)(1)'s requirement that the infringer "actively induce the combination" of the invention's components, 35 U.S.C. 271(f)(1), petitioners asserted that a single legal entity cannot "[a]ctively induce" itself to combine the components of a patented invention. Pet. App. 59a. Petitioners contended that, because respondent had not presented evidence that the domestic supplier of the *Taq* polymerase and the foreign manufacturing facility were separate legal entities, Section 271(f)(1) did not apply. *Ibid.*

The district court agreed with petitioners on both points and granted judgment as a matter of law. Pet. App. 50a-66a. The court held that Section 271(f)(1)'s reference to "all or a substantial portion" of an invention's components requires that multiple components be supplied from the United States. *Id.* at 54a-57a. The court also held, as an "independent reason" to overturn the jury's verdict, that Section 271(f)(1) requires that the domestic supplier and foreign assembler be separate entities. *Id.* at 63a.

Respondent moved for reconsideration on the ground that two separate entities were in fact involved, and that petitioners had induced their "foreign divisions, subsidiaries, or employees" to combine the components abroad. Resp. C.A. Br. App. A2364. The district court held that respondent had forfeited that argument. *Ibid.*

3. a. The court of appeals reversed and remanded in relevant part. Pet. App. 1a-43a.

The court of appeals first held that "no third party is required" to "actively induce" the combination of the components of a patented invention in order for liability to be imposed under Section 271(f)(1). Pet. App. 24a. The court reasoned that, by imposing liability on those who "actively induce the combination" of components, Section 271(f)(1) focuses on the result of the defendant's conduct (the "combination" of the components abroad) rather than on the identity of the entity that combines the components. *Id.* at 24a-25a. The court therefore concluded that, although "induce" can mean to "persuad[e] *another*," Section 271(f)(1) uses the term in a broader but equally well-recognized sense: "to bring about, to cause" a result. *Ibid.* (emphasis added).[2]

The court of appeals next held that a single, commodity component can be a "substantial portion of the components of a patented invention" if that component is a sufficiently important part of the invention. Pet. App. 28a-34a. In the court's view, Section 271(f)(1) uses the term "substantial" in a qualitative sense, to mean "'important' or 'essential.'" *Id.* at 28a. The court held that substantial evidence supported the jury's conclusion that *Taq* polymerase "is a 'substantial portion' of the components" of the patented invention because, "[w]ithout *Taq* polymerase, the genetic

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[2] Respondent challenged the district court's holding that respondent had forfeited the argument that petitioners had in fact induced a separate foreign entity to combine the components. The court of appeals did not address that argument, however, because the court held that no separate entity was necessary. Br. in Opp. 14 & n.5.

testing kit recited in the * * * patent would be inoperable because no [copying] could occur." *Id.* at 33a-34a. The court also observed that petitioners' "own witness admitted that the *Taq* polymerase is one of the 'main' and 'major' components of the accused kits." *Id.* at 34a.

The court of appeals accordingly reinstated the jury's verdict that petitioners had infringed respondent's patent under Section 271(f)(1). Pet. App. 37a. Because the court had held that four of the five patents at issue were invalid, see note 1, *supra*, the court vacated the jury's damages award and remanded to permit the district court to "determine damages due to [petitioners'] infringement of" the remaining patent. *Id.* at 38a.

b. Chief Judge Prost dissented. Pet. App. 39a-43a. She would have held that Section 271(f)(1) requires the defendant to actively induce a separate legal entity. *Id.* at 39a. She therefore would not have reached "the alternative argument" that petitioner was not liable because it had supplied only a single component from the United States. *Id.* at 39a n.1.

DISCUSSION

This Court should grant the petition for a writ of certiorari, limited to the second question presented.

The first question presented, which concerns the application of Section 271(f)(1) to situations in which the same legal entity both supplies the relevant components from the United States and assembles the components abroad, does not warrant this Court's review. The court below was correct that, if a single legal entity supplies components of a patented invention to its own foreign manufacturing facility, it may be held liable under Section 271(f)(1) for "actively

induc[ing] the combination" of the components. In any event, because multinational corporations ordinarily operate through separate, locally incorporated entities, true single-entity cases are unlikely to arise with any frequency. Indeed, the court of appeals decided the question in this case only because it was unclear whether respondent had adequately preserved its argument that petitioners had supplied the relevant component to a distinct legal entity.

Petitioners also challenge the court of appeals' conclusion that a single component of a multi-component invention may constitute "all or a substantial portion of the components" of the invention under Section 271(f)(1). That holding is contrary to Section 271(f)'s text and structure, and it is inconsistent with the presumption against extraterritoriality. The court of appeals' decision is also important, as it exposes United States exporters to a significant risk of liability when they supply a single commodity component to foreign customers. The second question presented therefore warrants this Court's review.

I. THE FEDERAL CIRCUIT'S HOLDING THAT SECTION 271(f)(1) DOES NOT REQUIRE THE DEFENDANT TO INDUCE A THIRD PARTY TO COMBINE COMPONENTS OF A PATENTED INVENTION DOES NOT WARRANT THIS COURT'S REVIEW

Petitioners challenge the court of appeals' holding that a corporation may "actively induce the combination" of components under Section 271(f)(1) when it supplies components to its own foreign manufacturing facility for combination. Pet. App. 24a-27a. That question does not warrant the Court's review.

A. The court of appeals correctly held that, if a single legal entity supplies components from the United

States to its own foreign manufacturing facility, it may be held liable under Section 271(f)(1) for actively inducing the combination of the components to produce the patented invention. Pet. App. 24a-27a.

1. Section 271(f)(1) prohibits supplying components of an invention from the United States "in such manner as to actively induce the combination of such components outside of the United States." 35 U.S.C. 271(f)(1). Petitioners contend that, as used in this context, the term "induce" means to "influence" or "persuad[e]." Pet. 13. Petitioners further argue that, because "one does not * * * influence oneself," Section 271(f)(1) requires that a defendant induce a third party to combine the components. *Ibid.*

That reasoning would be sound if the object of the verb "induce" were a word like "person," *e.g.*, if Section 271(f)(1) applied to the supply of components "in such manner as to actively induce a person outside of the United States to combine such components." In Section 271(f)(1), however, the object of the verb "induce" is a result: the defendant must "actively induce the *combination*" of components. 35 U.S.C. 271(f)(1) (emphasis added). Used in that context, the term "induce" means "to bring about, produce, or cause." *Random House Webster's Unabridged Dictionary* 975 (2d ed. 2001) (*Webster's*) ("That medicine will induce sleep."). To be sure, one way (indeed, the principal way, see pp. 12-13, *infra*) in which a person within the United States may cause components to be combined outside this country is to persuade another person to perform that task. But if a single legal entity exports the components to its own manufacturing facility abroad, and there combines them to produce the pa-

tented invention, that person is naturally said to "induce the combination."[3]

As we explain below (see pp. 12-13, *infra*), because multinational corporations typically act through locally incorporated subsidiaries or affiliates, components exported from the United States will seldom be combined abroad by the same legal entity. But in the rare circumstance where a single entity both exports components of a patented invention from the United States and combines them in a foreign country, the policies animating Section 271(f)(1) fully support the imposition of liability on the same terms as if the exporter had persuaded another person to act. Congress enacted Section 271(f) in response to this Court's holding in *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518 (1972), that a party could avoid infringement liability by shipping the components of a patented invention abroad, where they would be assembled by foreign customers, beyond the reach of the Patent Act. *Id.* at 523, 526-527. Congress intended Section 271(f)(1) to prevent infringers from exploiting the loophole created by the *Deepsouth* decision.

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[3] Section 271(f)'s legislative history supports that conclusion. The Senate Report, like Section 271(f)(1), uses the passive voice to focus on the result—combination of the components—rather than on the identity of the combiner. See S. Rep. No. 663, 98th Cong., 2d Sess. 6 (1984) (Section 271(f)(1) "will prevent copiers from avoiding U.S. patents by shipping overseas the components of a product patented in this country so that the assembly of the components *will be completed* abroad." (emphasis added)). A section-by-section analysis introduced in the House similarly focuses on the fact of combination and obscures the combiner. See 130 Cong. Rec. 28069 (1984) (Section 271(f)(1) "makes it an infringement to supply components * * * that *are to be combined* outside the United States." (emphasis added)).

See S. Rep. No. 663, 98th Cong., 2d Sess. 3 (1984) ("The bill simply amends the patent law so that when components are supplied for assembly abroad to circumvent a patent, the situation will be treated the same as when the invention is 'made' or 'sold' in the United States."). Exporting components with the intent that they be combined abroad is no less an end-run around United States patent laws when the domestic defendant supplies the components to its own foreign manufacturing facility.

2. Petitioners' contrary arguments are unpersuasive.

Petitioners contend (Pet. 13) that Section 271(f)(1) requires the defendant to induce a third party because this Court has construed the phrase "actively induce," as used in a different Patent Act provision (35 U.S.C. 271(b)), to mean "[t]o lead on; to influence; to prevail on; to move by persuasion or influence." *Global-Tech Appliances, Inc.* v. *SEB S.A.*, 131 S. Ct. 2060, 2065 (2011). Section 271(b) provides that "[w]hoever actively induces infringement of a patent shall be liable as an infringer," 35 U.S.C. 271(b), and it is premised on the existence of another party that is liable for direct infringement. *Limelight Networks, Inc.* v. *Akamai Techs., Inc.*, 134 S. Ct. 2111, 2117 (2014). Construing Section 271(b) as limited to inducement of another does not create any loophole or gap in coverage because, if a single entity within the United States carries out all the steps necessary to make a patented invention, it can be held liable for *direct* infringement under 35 U.S.C. 271(a). Because Section 271(b) is specifically designed to reach defendants who are not direct infringers, and is superfluous in circumstances where the defendant has performed all the conduct

that results in infringement of the patent, the phrase "actively induces infringement" *in that provision* is naturally read to mean "persuade[s] another to engage in" infringement. *Global-Tech*, 131 S. Ct. at 2065.

Unlike Section 271(b), Section 271(f)(1) "impose[s] liability for inducing activity that does not itself constitute direct infringement" because the combination of components takes place outside this country, and thus beyond the reach of the Patent Act. *Limelight*, 134 S. Ct. at 2118. If Section 271(f)(1) is construed not to reach an entity that both exports components and combines them abroad, that entity's conduct will not be actionable under any other Patent Act provision. Because such a reading would allow the type of circumvention that Section 271(f)(1) was enacted to prevent, and because the phrase "actively induces the combination" can naturally be construed to reach single-entity conduct (see pp. 8-9, *supra*), the court of appeals correctly declined to limit the provision's coverage in the manner that petitioners advocate.

Petitioners also argue (Pet. 16-20) that the Federal Circuit's construction of Section 271(f)(1) is "contrary to the presumption against extraterritoriality." But construing Section 271(f)(1) to reach cases where the domestic supplier and foreign manufacturer are the *same legal entity* does not expand the provision's reach in a manner that implicates the presumption against extraterritorial application of United States law. To the contrary, in such cases the nexus between the prohibited course of conduct and the United States is closer than in the separate-entity cases to which Section 271(f)(1) more typically applies. The court's holding therefore does not impinge on foreign-

sovereign interests. See *Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437, 455-456 (2007).

B. The question whether Section 271(f)(1) applies when a single entity both supplies components from the United States and assembles them abroad does not arise with any frequency. Indeed, although the Federal Circuit decided this case on the assumption that a single entity performed both those steps, that assumption appears to be inaccurate.

Multinational corporations generally act through locally incorporated subsidiaries or affiliates rather than as single legal entities spread over multiple countries. See, *e.g.*, Fritz Blumer, *Jurisdiction and Recognition in Transatlantic Patent Litigation*, 9 Tex. Intell. Prop. L.J. 329, 349 (2001). "Separate units are created for tax, corporate governance or limitation of liability reasons, as it is impractical for most enterprises to do business in multiple jurisdictions as a single entity." Allan L. Gropper, *The Arbitration of Cross-Border Insolvencies*, 86 Am. Bankr. L.J. 201, 203-204 (2012). As a result, "[v]irtually all multinational corporate empires are corporate groups, not single corporations, and indeed there are often hundreds of legally separate entities." Edward S. Adams & Jason K. Fincke, *Coordinating Cross-Border Bankruptcy: How Territorialism Saves Universalism*, 15 Colum. J. Eur. L. 43, 83 (2009).

Thus, even in Section 271(f)(1) cases where the export and assembly steps are performed by members of the same corporate family, the defendant who supplies components from the United States typically will be alleged to have induced a separate legal entity to

combine the components.[4] Petitioners have identified only three cases—in the 32 years since Section 271(f)(1) was enacted—in which a single entity appears to have both supplied the components from the United States and combined them overseas.[5] And petitioners do not contend that Section 271(f)(1) is inapplicable to cases where a United States exporter in-

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[4] See, *e.g.*, *Ormco Corp.* v. *Align Tech., Inc.*, 609 F. Supp. 2d 1057, 1062 (C.D. Cal. 2009) (components supplied to wholly-owned foreign subsidiary); *PLS-Pacific Laser Sys.* v. *TLZ Inc.*, No. C-06-04585, 2007 WL 2022020, at *1 (N.D. Cal. July 9, 2007) (affiliates incorporated under foreign law); *Negotiated Data Solutions, Inc.* v. *Apple, Inc.*, No. 2:11-CV-390, 2012 WL 6161785, at *3 (E.D. Tex. Dec. 11, 2012) (defendant allegedly supplied components to foreign "contract manufacturers"); see also, *e.g.*, *Eolas Techs., Inc.* v. *Microsoft Corp.*, 274 F. Supp. 2d 972, 973 (N.D. Ill. 2003) (components supplied to domestic defendant's foreign manufacturers pursuant to licensing agreement); *Nomadix, Inc.* v. *Hospitality Core Servs. LLC*, No. CV 14-08256, 2015 WL 1525537, at *3 (C.D. Cal. Apr. 3, 2015) (components supplied to foreign customers).

[5] See *WesternGeco LLC* v. *ION Geophysical Corp.*, 876 F. Supp. 2d 857, 902 (S.D. Tex. 2012) (foreign corporation caused components to be shipped from the United States, and combined them overseas); *Moore U.S.A. Inc.* v. *Standard Register Co.*, 144 F. Supp. 2d 188, 190, 195 (W.D.N.Y. 2001) (defendant's employees brought materials from the United States to Switzerland and assembled them there); *T.D. Williamson, Inc.* v. *Laymon*, 723 F. Supp. 587, 591 (N.D. Okla. 1989), aff'd, 923 F.2d 871 (Fed. Cir. 1990) (defendant appears to have shipped components to foreign manufacturing facility). In a fourth decision on which petitioners rely (Reply Br. 6), the relationship between the domestic and foreign entities is unclear. *Key Energy Servs., Inc.* v. *C.C. Forbes, LLC*, No. 2:08-cv-346, 2011 WL 7429433, at *6 (E.D. Tex. June 3, 2011). The court in that case did not explain its statement that Section 271(f)(1) does not require the recipient of the components to be a "third party," and the two parties to the transaction may have been separate but related entities.

duces an affiliated corporate entity to combine components abroad.

Indeed, although the Federal Circuit decided this case on the assumption that "no other party was involved in [petitioner's] assembly of the accused kits," Pet. App. 23a, that assumption appears to be inaccurate. Respondent asserts that the entity that supplied the components was legally distinct from the entity that combined them, and that petitioners therefore "induced the conduct of other (albeit affiliated) corporate entities." Br. in Opp. 14 n.5; see *id.* at 15. Petitioners do not dispute that assertion in their reply brief. See Reply Br. 6-7.

The Federal Circuit assumed that the domestic supplier and the foreign manufacturer were a single legal entity because the district court had held that respondent had forfeited any contrary argument. See Br. in Opp. 14 & n.5; Resp. C.A. Br. App. A2364-A2365 ("[Respondent] raises an alternative argument that defendants did not 'induce' themselves, but their 'foreign divisions, subsidiaries or employees.' * * * This is a new argument."). Respondent appealed the district court's forfeiture ruling, see Resp. C.A. Br. 44 n.11, but the Federal Circuit did not address that issue because it held that Section 271(f)(1) does not require the defendant to induce a separate legal entity.

Regardless of whether the district court's forfeiture ruling was correct, it would be highly artificial for this Court to decide a legal question that arises in this case only because the courts below made a factual assumption that both parties appear to agree is inaccurate. That is particularly so because respondent's assertion that separate legal entities were involved in

this case accords with usual commercial practice. See pp. 12-13, *supra*. A grant of certiorari and a reversal on the ground that separate legal entities are required would be an especially unfortunate disposition if it prevented the Court from resolving the second question presented, which involves a legal issue of substantial practical importance. See pp. 20-22, *infra*. The first question presented in the petition does not warrant this Court's review.

II. THIS COURT SHOULD REVIEW THE FEDERAL CIRCUIT'S HOLDING THAT A DEFENDANT MAY BE HELD LIABLE UNDER SECTION 271(f)(1) FOR SUPPLYING A SINGLE COMPONENT OF A PATENTED INVENTION

Petitioners challenge (Pet. 21-30) the Federal Circuit's holding that a single component of a multi-component invention may constitute "all or a substantial portion of the components" of that invention for purposes of Section 271(f)(1). The Federal Circuit's holding is incorrect, and it subjects domestic exporters to the threat of liability for supplying a single staple article into the global stream of commerce. This Court's review is warranted.

A. 1. Section 271(f)(1) prohibits the "suppl[y] * * * [of] all or a substantial portion of the components of a patented invention" in a manner that actively induces the combination of the components abroad. 35 U.S.C. 271(f)(1). The Federal Circuit held that petitioners could be liable under Section 271(f)(1) for supplying a single component of a multi-component invention because "the dictionary definition of 'substantial' is 'important' or 'essential,'" and "[n]othing in the ordinary meaning of 'portion' suggests that it

necessarily requires a certain quantity." Pet. App. 28a. That conclusion is incorrect.

The term "substantial" can have either a quantitative meaning ("of ample or considerable amount") or a qualitative meaning ("important"). *Webster's* 1897 (defs. 1 and 8). Section 271(f)(1)'s context makes clear that the provision uses the term "substantial" in its quantitative sense. Section 271(f)(1) imposes liability for supplying "*all* or a *substantial portion* of the *components*" of the invention. 35 U.S.C. 271(f)(1) (emphases added). The term "all" necessarily carries a quantitative meaning: when used with a plural noun, "all" means "the whole of" or "the whole number of." *Webster's* 54; see 1 *Oxford English Dictionary* 324 (2d ed. 1989) (def. 2) ("[t]he entire number of; the individual components of, without exception"). The term "portion" likewise invokes a quantity: "a part of any whole." *Webster's* 1507. The phrase "all or a substantial portion of the components" therefore is most naturally read to include (1) all of the components of a patented invention, and (2) a quantitatively substantial percentage of those components. Cf. *Yates* v. *United States*, 135 S. Ct. 1074, 1085 (2015) ("[A] word is known by the company it keeps."). In a five-component invention like the genetic testing kit at issue here, the single most important component might constitute a substantial portion of the *invention*, but it cannot constitute a substantial portion of the *components*.

Section 271(f)(1)'s second use of the plural word "components" reinforces that conclusion. Section 271(f)(1) prohibits the supply of "all or a substantial portion of the *components* of a patented invention, where *such components* are uncombined in whole or in

part." 35 U.S.C. 271(f)(1) (emphasis added). Congress's use of the term "such components" to describe what is exported from this country implies that multiple components must be supplied from the United States in order to trigger the statutory ban.

Respondent contends (Br. in Opp. 19-20) that the term "such components" in this provision refers to all of the components of the invention, not simply to those that are supplied from the United States. Section 271(f)(2), however, uses phrasing parallel to Section 271(f)(1), prohibiting the supply of any "especially made" component "where such component is uncombined." 35 U.S.C. 271(f)(2). In Section 271(f)(2), the only plausible referent for "such component" is the "especially made" component supplied from the United States. There is no sound reason to give the parallel term "such components" in Section 271(f)(1) a starkly different meaning. Indeed, this Court has observed in dicta that Sections 271(f)(1) and (2) "differ, among other things, on the quantity of components that must be 'supplie[d] . . . from the United States' for liability to attach." *Microsoft*, 550 U.S. at 454 n.16.

Section 271(f)(2) specifies the circumstances in which the export of a single component from the United States can give rise to infringement liability. That provision limits the single components that may be the basis for liability to those that are "especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial non-infringing use." 35 U.S.C. 271(f)(2). The practical effect of the decision below, however, is that the export of even a "staple article" can give rise to infringement liability if that article is a sufficiently

important component of the patented invention. If Congress had intended to adopt that rule, the addition of suitable language to Section 271(f)(2) would have been a more natural way to express that intent. Construing Section 271(f)(1) to permit liability based on the supply of a single staple article would give that provision the broad sweep that Congress purposely avoided in Section 271(f)(2).

2. The presumption against extraterritoriality reinforces the conclusion that Section 271(f)(1) requires the supply of a quantitatively substantial percentage of an invention's components. That presumption "assume[s] that legislators take account of the legitimate sovereign interests of other nations when they write American laws," and that "foreign conduct is [generally] the domain of foreign law." *Microsoft*, 550 U.S. at 455-456. The Court in *Microsoft* described Section 271(f)(1) as "an exception to the general rule that our patent law does not apply extraterritorially," in that it imposes liability for domestic conduct (shipping components from the United States) that induces particular foreign conduct (the manufacture in a foreign country of an invention that is patented in the United States). *Id.* at 442. Because the scope of liability under Section 271(f)(1) will affect the foreign conduct of the recipients of the components, the presumption against extraterritoriality is "instructive in determining the extent of" the provision's coverage. *Id.* at 455-456.

The court of appeals' decision in this case expands Section 271(f)(1)'s extraterritorial reach in a way that impinges on "legitimate [foreign] sovereign interests." *Microsoft*, 550 U.S. at 455. When Section 271(f)(1) is correctly construed to cover only those defendants

who have supplied all or most of a patented invention's components from the United States, domestic conduct constitutes the bulk of the overarching transaction, and the only extraterritorial conduct affected is that of receiving all or most of the components from the United States and combining them to produce the invention. Liability under Section 271(f)(1) is therefore closely tied to circumvention of U.S. patent law. Under the court of appeals' approach, by contrast, liability could be based on domestic conduct that plays a relatively minor role in the transaction, in derogation of foreign states' legitimate sovereign interest in permitting their citizens to use imported staple articles to assemble and sell inventions that are not patented abroad.

3. The decision below raises further practical concerns.

The Federal Circuit's test of qualitative substantiality is unclear. See Pet. App. 34a. The court's decision might be read to hold that a single component constitutes a "substantial portion" of the components of a patented invention whenever the invention "would be inoperable" without that component. *Ibid.* An invention may be rendered inoperable, however, by the absence of even minor constituent parts, like the spark plug of a car. If the decision below is understood to permit liability based on the export of staple components of that character, it would have far-reaching implications for U.S. export trade.

Alternatively, the court's decision might be understood to hold that a single component is a "substantial portion" of the invention only if it is a "main" or "major" component. Pet. App. 34a. The court of appeals did not explain how that inquiry should proceed, in-

stead relying without analysis on the statement of petitioners' expert that four of the five components of the invention were "main" or "major." C.A. App. 6290; see Pet. App. 34a. Respondents have not identified any more administrable standard, stating only that "[s]ubstantiality is a fact question that requires a case-specific analysis of what is being supplied * * * and its relationship to the patented invention across multiple dimensions." Br. in Opp. 16. Without more meaningful guidance, domestic suppliers of staple components to foreign manufacturers cannot cogently assess their potential liability before exporting such goods.

Courts can more readily administer a quantitative test that compares the number of components supplied to the total number of components of the patented invention. To be sure, some cases may present difficult questions about how many components constitute a "substantial portion" of the whole number. In answering those questions, however, courts may be guided by Congress's use of the phrase "all or a substantial portion of the components." 35 U.S.C. 271(f)(1). Congress evidently understood the supply of a "substantial portion" of the components to be approximately as culpable as supplying "all" of the components, which suggests that the term "substantial portion" refers to a high percentage (*i.e.*, nearly all) of the components.

B. 1. The question presented is important. The court of appeals' decision significantly broadens Section 271(f)(1)'s coverage, threatening liability for the many U.S. exporters who supply single commodity components to foreign purchasers. When a patentee is able to establish Section 271(f)(1)'s other elements,

an exporter could face enormous patent-infringement liability for worldwide sales based on the export of a single staple article. The question presented is also likely to recur. Indeed, one district court has already relied on the decision below in holding that a defendant may be liable for exporting a single component if it "is a 'main' and 'major' component of the patented device and the device 'would be inoperable' without it." See *Nomadix, Inc.* v. *Hospitality Core Servs. LLC*, No. CV 14-08256, 2015 WL 1525537, at *5 (C.D. Cal. Apr. 3, 2015).

Respondent contends (Br. in Opp. 23) that the question is unlikely to arise often in the future because this case involved unusually clear evidence—namely, a "fact-specific concession from petitioners' own witness"—that the single component shipped was the "main" component of the kits. But in reinstating the jury's verdict, the court of appeals necessarily determined, as a legal matter, that the jury could permissibly find that a single component was a "substantial portion" of the components of the invention. Pet. App. 34a. That holding, as well as the court's suggestion that any component necessary to the invention's operation is a "substantial portion," will likely encourage further lawsuits based on single-component transactions.

2. This case is a suitable vehicle for resolving the question presented. The legal issue is cleanly presented. At least if the Court denies certiorari on the first question presented, there appear to be no obstacles that would prevent this Court from reaching and deciding the "substantial portion" question.

As respondent observes (Br. in Opp. 25-26), the Federal Circuit's decision is interlocutory because,

after reinstating the jury's infringement verdict with respect to one of the five patents-in-suit, the court of appeals remanded for a new trial on damages. Pet. App. 37a. The interlocutory posture of the case would weigh against immediate review if it were unclear whether the Federal Circuit's expansive interpretation of Section 271(f)(1) would affect the amount of damages ultimately awarded. But while respondent has expressed an intent to introduce newly discovered evidence showing that most of petitioners' kits used multiple components shipped from the United States, respondent does not contend that all of the kits at issue in this case were produced from multiple-component shipments. See Br. in Opp. 25-26. And proceedings in the district court have been stayed pending this Court's disposition of the certiorari petition. See Reply Br. 11. Because the court of appeals has decided an important legal issue, and its decision will govern both the resolution of other cases and the calculation of damages in this case, review is warranted now.

CONCLUSION

The petition for a writ of certiorari should be granted, limited to the second question presented.

Respectfully submitted.

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LIFE TECHNOLOGIES CORPORATION; INVITROGEN IP HOLDINGS, INC.; APPLIED BIOSYSTEMS, LLC,

Petitioners,

v.

PROMEGA CORPORATION,

Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF OF *AMICUS CURIAE* AGILENT TECHNOLOGIES, INC. IN SUPPORT OF PETITIONERS

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INTEREST OF AMICUS CURIAE

Agilent Technologies, Inc. ("Agilent")[1] is a $4 billion publicly-traded U.S. company with 12,000 employees.[2] Its worldwide manufacturing operations stand to be adversely impacted by the decision of the U.S. Court of Appeals for the Federal Circuit in *Promega Corp. v. Life Technologies Corp.*, 773 F.3d 1338 (Fed. Cir. 2014). The Federal Circuit's decision makes U.S.-based manufacturers a target for patent infringement allegations by exposing them to infringement liability for activities and sales occurring outside the U.S. based on a nominal or *de minimis* connection to the U.S. It thereby encourages companies to relocate or prioritize their manufacturing to other countries.

Agilent has a distinguished pedigree in technology and innovation. Originally part of Hewlett-Packard,

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[1] All parties have been given appropriate notice and consented to the filing of this brief in letters that are on file with the Clerk. Petitioners have filed a blanket consent and the consent of Respondent is being lodged herewith. Pursuant to S. Ct. R. 37.6, counsel for *Amicus* state that no counsel for a party authored this brief in whole or in part and no person or entity, other than *Amicus* or its counsel, made a monetary contribution to the preparation or submission of this brief.

[2] *See* Agilent, Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 (Dec. 22, 2014), Sec. & Exch. Comm'n File No. 001-15405 (hereafter, "Agilent 2014 10-K") at p. 3; *See also* Agilent, Agilent Fact Sheet (Mar. 18. 2015). http://www.agilent.com/about/companyinfo/agilent-fact-sheet.pdf. (hereafter, "Agilent Fact Sheet") (clarifying financials after spinoff of measurement business, now Keysight Technologies, Inc.).

it was spun off as a separate company in 1999.[3] It is a leader in developing products and services for life sciences, diagnostics and chemical testing industries.[4] Agilent's products and services help diagnose and research disease, assess petrochemical products, evaluate environmental contamination, detect impurities in materials used in electronics manufacturing, and ensure food safety. [5]

Agilent is a U.S. company, incorporated in Delaware and headquartered in California, but with global manufacturing and sales, and global revenue and workforce. [6] Agilent's revenue is generated 34% in the Americas, 33% in Europe, and 33% in the Asia-Pacific region. Its 12,000-person workforce is located 35% in the Americas, 29% in Europe, and 36% in the Asia Pacific region.[7]

Agilent's life sciences and diagnostic business has manufacturing facilities in California, Colorado and North Carolina in the U.S. Outside of the U.S., Agilent has life sciences manufacturing facilities in Germany, Malaysia, Poland, Singapore and the U.K. Its FDA-registered sites include Texas, Denmark and California. [8]

Agilent's chemical analysis business is similarly diverse and global. Agilent's chemical analysis business has manufacturing facilities in California,

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[3] *See* Agilent, Company Information, http://www.agilent.com/about/companyinfo/index.html.

[4] *See* Agilent 2014 10-K at pp. 3-4, 8.

[5] *See id.* at pp. 3-4, 8.

[6] *See id.* at pp. 3-4.

[7] *See* Agilent Fact Sheet.

[8] *See* Agilent 2014 10-K at p. 8.

Delaware, and Connecticut in the U.S. Outside of the U.S., it has manufacturing facilities in Australia, Canada, China, Italy, Malaysia, Netherlands, Japan, and the United Kingdom. [9]

As is typical of global advanced technology companies, Agilent manufactures some standard products and also makes highly configurable products. [10] In addition, many of its products incorporate individual components that are used in multiple other Agilent products. It utilizes just-in-time manufacturing and does not maintain a high level of inventory. [11] Accordingly, Agilent must employ advanced global supply chain management systems that are flexible and responsive.

SUMMARY OF ARGUMENT

This case is of compelling interest to Agilent. It is essential for U.S. manufacturers with global operations to have the ability to manufacture components in the U.S. without facing disproportionate liability or undue legal complexity or uncertainty. The decision of the U.S. Court of Appeals for the Federal Circuit increases the potential for and scope of patent infringement liability in a way inconsistent with the statutory language and which was not, and could not have been, contemplated by Congress. Agilent therefore submits this brief, as a Friend of the Court, in support of the Petition of Life Technologies, Inc. requesting that this Court grant *certiorari* to review the decision of the U.S. Court of Appeals for the

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[9] *See* Agilent 2014 10-K at p. 10.

[10] *See id.* at pp. 8, 10.

[11] *See id.* at pp. 8, 10.

Federal Circuit in *Promega Corp. v. Life Technologies Corp.*, 773 F.3d 1338 (Fed. Cir. 2014).

On review, this Court should reject the Federal Circuit's interpretation as inconsistent with the plain text and purpose of 35 U.S.C. 271(f). The incorporation of commonplace elements manufactured in the U.S. into products that are finished in other countries should not trigger exposure to U.S. patent liability for the value of the finished product other than under the specific, limited circumstances addressed by the plain language of the statute. Further, manufacturers must have the ability to choose the most efficient country for manufacturing of components, rapidly shift supply from one country to another, and rely on backup supply sources, and the Federal Circuit's decision interferes with those essential aspects of modern global supply logistics. For example, except in specific, limited circumstances, manufacturers should not be burdened with performing complex legal analysis of patent exposure with every shift in sourcing or delivery of standard, commonplace components. Under the Federal Circuit's decision, the potential for broad patent liability would need to be considered at the outset in planning the sourcing of even staple, commodity components that are likely to be used in products manufactured or assembled anywhere in the world and the Federal Circuit's interpretation of 271(f) would be a thumb on the scale in favor of foreign manufacturing, even though the quality and cost of U.S. manufacturing is competitive.

ARGUMENT

I. COMPLEX GLOBAL MANUFACTURING OPERATIONS AND SOPHISTICATED SUPPLY CHAIN MANAGEMENT SYSTEMS ARE THE NORM TODAY

Manufacturing has changed profoundly in the 30 years since § 271(f) was enacted. Modern supply chain management requires efficient, flexible, responsive and resilient manufacturing operations that minimize inventory and cost, while allowing for extremely rapid response to changes in customer demand or to crises that disrupt operations. To be competitive, companies must design rapidly adaptable products, and be able to rapidly adapt individual manufacturing sites. This is accomplished through modern supply chain management systems, in which each manufacturing site must be a completely integrated component of the company's operations. The short timeframes for response as part of this organization-wide system do not allow for complex legal analysis of patent liability exposure before each change, especially where that potential liability is based on common, staple components that do not themselves trigger liability.

In contrast, in regulated industries, such as diagnostics, it can be difficult, expensive, and inefficient to move manufacturing to a different facility or country. Once approved manufacturing processes and practices are established at a particular facility or set of facilities (*e.g.*, for multicomponent products), that manufacturing tends to stay where it is absent emergency or other extenuating circumstances. The decision on where to locate long-term manufacturing of regulated products and their components must take into account, among

other things, appropriate respect for the patent rights of others, as must any decision to relocate manufacturing in extenuating circumstances.[12]

In both of the foregoing situations, a rule that imposes outsized liability for global sales of finished products based on shipment of commonplace, but essential, components from the U.S. reduces flexibility, increases the risk and cost of U.S. manufacturing, and will discourage companies from manufacturing in the U.S.

A. Origins and Evolution of Supply Chain Management Systems

Although the concept may seem intuitive today, the term "supply chain management" was only coined by the management consultant Keith Oliver in 1982, two years before § 271(f) was enacted.[13] At that time, it was radical to suggest that a company's production, sales, finance, marketing and distribution functions should work in a coordinated fashion, to eliminate problems arising from each function viewing its goals and plans in isolation, and to instead view these functions as part of an integrated supply chain in order to make finished goods available more efficiently.[14]

Today, supply chain management is a well-established field, with academic programs at the

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[12] *See* James Manyika et al., *Manufacturing the Future: The Next Era of Global Growth and Innovation*, McKinsey & Co., Nov. 2012, at p. 54, http://www.nist.gov/mep/data/-upload/Manufacturing-the-Future.pdf.

[13] *See* Tim Laseter & Keith Oliver, *When Will Supply Chain Management Grow Up?*, strategy+business, Fall 2003, http://www.strategy-business.com/article/03304?gko=54182.

[14] *See id.*

Massachusetts Institute of Technology,[15] Michigan State University,[16] and Penn State,[17] among many others. Companies have chief procurement officers to lead these efforts. [18] Specialized software is employed to design and monitor the supply chain.[19] Supply chain management systems are ever more sophisticated in their efforts to analyze the entire supply chain strategically to balance cost, risk, and flexibility.[20] There is a greater understanding and sophistication of these tradeoffs, as high-speed, low-cost supply chains proved unable to respond to unexpected changes in supply.[21] There is constant attention to designing supply chains that have sufficient flexibility and redundancy to be resilient in the face of political unrest and natural disasters.[22] Modern supply chain management practices did not arise from any desire to thwart or avoid liability under U.S. patent law. See *Deepsouth Packing Co. v.*

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[15] Mass. Inst. of Technology, MIT Supply Chain Management, http://scm.mit.edu/program.

[16] Michigan State Univ. Eli Broad School of Business, Department of Supply Chain Management, https://supplychain.broad.msu.edu/.

[17] Penn. State Univ. Smeal College of Business, Master of Professional Studies in Supply Chain Management, http://www.smeal.psu.edu/mps.

[18] *See* Laseter & Oliver, *supra* n.13.

[19] *See* Claudia H. Deutsch, *Supply Chain Software: An Industry on a Thrill Ride,* N.Y. Times, May 31, 1998.

[20] *See* Laseter & Oliver, *supra* n.13.

[21] *See* Hau L. Lee, *The Triple-A Supply Chain,* Harvard Bus. Rev., Oct. 2004.

[22] *See* David Simchi-Levi et al., *From Superstorms to Factory Fires: Managing Unpredictable Supply-Chain Disruptions,* Harvard Bus. Rev., Jan. 1, 2014.

Laitram Corp., 406 U.S. 518, 520 n. 5 (1972) ("Deepsouth is entirely straightforward in indicating that its course of conduct is motivated by a desire to avoid patent infringement").

B. Modern Supply Chain Management Requires Agile, Resilient, Efficient Systems for Supplying Products and Components Worldwide

Supply chain management must be capable of dealing with ordinary recurring risks, such as labor disputes, transportation breakdowns, and changes in customer preference, and extremely rare but devastating disruptions.[23]

A recent experience of Cisco Systems, Inc. ("Cisco") is illustrative of the level of responsiveness that is expected in today's business environment. After Hurricane Katrina, Cisco found that its supply chain management was inadequate to deal with the immediate demand for $1 billion in new equipment to replace damaged telecommunications infrastructure. Cisco's risk mitigation and response system could not locate all its products in the supply chain or understand the financial impacts of emergency sales. In response to this failure, Cisco redesigned its supply chain management. As a result, six years later, after the March 11, 2011 Japanese earthquake and tsunami, Cisco was able within 12 hours to assess the impact on 300 suppliers in the region and

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[23] *See* Sunil Chopra & Manhohan S. Sodhi, *Reducing the Risk of Supply Chain Disruptions*, MIT Mgmt. Rev., Spring 2014, at 73, 74, http://sloanreview.mit.edu/article/reducing-the-risk-of-supply-chain-disruptions/.

7,000 affected parts, plan a response, and identify teams to field customer inquiries. [24]

This current emphasis on adaptability and resilience represents a shift from previous decades, when manufacturers focused more narrowly on minimizing inventory and trimming costs of production. Some of the techniques used to lower production cost — such as outsourcing to low-cost production sites in faraway countries, relying on fewer suppliers, and excessively relying on common interchangeable parts — were rejected in favor of truly modern supply chain systems that balanced many factors.[25]

C. Agilent's Supply Chain Management Illustrates the Challenges Faced by Multinational Manufacturers

Agilent is in many ways typical of modern supply chain management trends for advanced technology global companies. Its market is global, drawn equally from Europe, Asia and the Americas, and Agilent deploys its workforce and manufacturing operations among those regions as well. It faces routine fluctuations in demand as well as the risk of major unexpected disruptions.

Like its peers, Agilent relies upon extremely sophisticated supply chain management consulting and tools to manage the variation in demand for its

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[24] *See* Maria Jesús Sáenz & Elena Revilla, *Creating More Resilient Supply Chains*, MIT Mgmt. Rev., Summer 2014, http://sloanreview.mit.edu/article/creating-more-resilient-supply-chains/.

[25] *See* Chopra & Sodhi, *supra* n.23, at 74.

products.[26] One notable distinction from a consumer goods manufacturer is that much of Agilent's market is "high mix-low volume" — that is, it moves a comparatively small number of units, and clients demand a much greater degree of customization. [27] And, of course, its products are more complex and subject to patent coverage than simple consumer goods like t-shirts and scarves.

Agilent has responded by designing products that use common components that can be readily customized in different configurations in response to demand. This process is termed "postponement" because it allows companies to maintain the ability to respond to market demand later in the production cycle.[28] Indeed, Hewlett-Packard, from which Agilent was spun off in 1999, was a pioneer in successfully using modular product design to "mass-customize" products quickly while keeping its costs low.[29] In addition, like its peers, Agilent manages risk by establishing multiple sources of supply and redesigning products to use alternative components.[30]

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[26] *See* Kinaxis, *Comprehensive Supply Chain Visibility Across a Multi-Enterprise Supply Chain*, http://www.kinaxis.com/Global/resources/case-studies/comprehensive-supply-chain-visibility-agilent-case-study-kinaxis.pdf (hereafter, "Kinaxis Study"). (While this study was prepared prior to the spinoff of Keysight from Agilent in 2014, the case study remains accurate for the facts cited in this *amicus* brief.)

[27] *See* Kinaxis Study.

[28] *See* Hau L. Lee, *supra* n.21.

[29] Edward Feitzinger & Hau L. Lee, *Mass Customization at Hewlett-Packard: The Power of Postponement*, Harvard Bus. Rev., Jan. 1997.

[30] *See* Agilent 2014 10-K at p. 15.

Agilent must be able to plan, instantly monitor and tightly manage a supply chain network that involves participants scattered around the globe. [31]

In diagnostic, pathology and life sciences businesses, shortages have additional consequences of greater public concern. Shortages in the health care industry make manufactures, consumers, and patients vulnerable to counterfeiters and gray market vendors selling healthcare products at a significant markup, which poses risks to patients as well as the corporate bottom line.[32] This can result in ineffective therapy, increased drug resistance due to substandard medications, and injury from counterfeit substances.[33] Shortages can delay treatment, cause physicians to choose therapies that are less effective or have avoidable risks, and disrupt clinical trials and other research.[34] In addition, the potential for patent infringement liability for the value of finished healthcare products that are assembled and sold outside the U.S. using common, staple components sourced from the U.S. would tend to make U.S. manufacturing of such components less desirable.

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[31] *See* Kinaxis Study.

[32] *See* Thomas Ebel et al., *Building New Strengths in the Healthcare Supply Chain*, McKinsey & Co., Jan. 2013, at 3, http://www.mckinsey.com/insights/health_systems_and_services/strengthening_health_cares_supply_chain_a_five_step_plan.

[33] *See id.* at 4.

[34] *See* U.S. Food and Drug Administration, *Strategic Plan for Preventing and Mitigating Drug Shortages* (Oct. 2013) at 8, http://www.fda.gov/downloads/-Drugs/DrugSafety/DrugShortages/UCM372566.pdf.

II. AGILENT'S ESTROGEN/PROGESTERONE RECEPTIVITY TEST KITS FOR BREAST CANCER DIAGNOSIS ILLUSTRATE THE POTENTIAL UNDUE CONSEQUENCES OF THE FEDERAL CIRCUIT'S RULING

Reviewing a single Agilent product that includes several components used in other Agilent products may help illustrate the scope of the problem created by the Federal Circuit's broad interpretation of the statute.

A. Estrogen/Progesterone Receptor Test Kits for Breast Cancer Diagnosis Illustrate the Use of Commonplace Components

In the diagnosis of breast cancer, testing for various molecular factors is now routine to help assess the aggressiveness of the cancer and identify factors that may fuel tumor growth or be responsive to treatment. Receptivity to estrogen and progesterone is one of these factors, and testing of tumor samples for estrogen-progesterone responsiveness ("ER/PR") is standard of care.[35] Patients whose tumors are strongly ER/PR receptive can make lifestyle changes (such as avoiding hormonal methods of birth control, pregnancy, and estrogen replacement therapy for menopause) and are treated with medications that alter the body's production and response to these hormones.[36]

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[35] American Society of Clinical Oncology, *Estrogen and Progesterone Receptor Testing for Breast Cancer,* http://www.cancer.net/research-and-advocacy/asco-care-and-treatment-recommendations-patients/estrogen-and-progesterone-receptor-testing-breast-cancer.

[36] *See id.*

Agilent offers several ER/PR kits and products, which are described in the pathology catalogue of Agilent's Dako subsidiary.[37] One of these products is product number SK310, an ER/PR test kit, which is designed for use in a testing platform known as Automated Link.[38] A similar ER/PR test designed for use in a Dako Autostainer is K4071. [39] Automated Link and Autostainer are instruments that allow tissue samples to be processed more rapidly.[40] Agilent also sells the ER and PR antibodies separately.[41]

The SK310 ER/PR kit product specification lists the kit components.[42] These include epitope retrieval solution (a citrate buffer with an antimicrobial agent); peroxidase-blocking reagent; ER antibody cocktail; PR antibody; negative control reagent; visualization reagent; DAB+ substrate buffer; DAB+ chromogen; reagent bottles; wash buffer concentrate;

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[37] Dako, *2015 Catalog: Products and Services (Pathology)*, pp. 150-151, http://www.dako.com/us/2015-pathology-catalog-dako-us.pdf?from=catalog-path-2015-us_pdf (hereafter, "Pathology Catalog"). Dako was acquired by Agilent in 2012. *See* Agilent 2014 10-K at 3.

[38] *See id.* at pp. 46, 150.

[39] *See id.* at pp. 58, 150; Dako, ER/PR pharmDx Kit for the Dako Autostainer (K4071), http://www.dako.com/us/download.pdf?objectid=117052002.

[40] *See* Dako, *Dako Autostainer Plus User Guide*, http://www.dako.com/us/0003107_rev_d_man_user_guide_autostainer_plus_english.pdf; Dako, Autostainer Link 48, http://www.dako.com/us/ar48/psg38717000/baseproducts.htm.

[41] *See* Pathology Catalog, at p. 67.

[42] *See* Dako, ER/PR pharmDx Kit (Link) (SK310), http://www.dako.com/us/download.pdf?objectid=117180004 (hereafter, SK310 Product Specifications).

and control slides.[43] Additional materials and equipment, such as slides, coverslips, water, a microscope, a pressure cooker, and tissue samples, are required, but not supplied with the kit.[44]

One of the components of the SK310 kit, wash buffer concentrate, is used to prepare a wash buffer for use in immunohistochemical testing procedures, which use antibodies to identify specific protein components of tissue samples.[45] The wash buffer can be used in Dako testing equipment or when staining manually.[46] This particular wash buffer concentrate is included in seven Agilent products, including both ER/PR test kits, and other test kits, and is sold separately.[47]

The wash buffer is essential to the test. It is used to remove unwanted molecules, but is relatively inert so that it does not react with and alter the specimen.[48] While it is important for a wash buffer to be formulated correctly to avoid generating false negative or positive results, wash buffer is a commonplace component in many tissue testing procedures and finished products.

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[43] *See* SK310 Product Specifications at pp. 1-3.

[44] *See id.* at p. 3.

[45] Dako, Wash Buffer 10x (S3006) Product Specification Sheet, p. 1, http://www.dako.com/us/download.pdf?objectid=107011002

[46] *See id.*

[47] Dako, Safety Data Sheet: Wash Buffer 10x, http://www.dako.com/us/download.pdf?objectid=126645001 (Listing products in which the wash buffer is used, under "material uses.").

[48] *See* SK310 Product Specifications, at p. 8 (general limitations no. 7), p. 10 ("Troubleshooting").

B. The Federal Circuit's Interpretation Could Render the Manufacturing and Use of Common, Interchangeable Components in Tests Kits Such as the Estrogen/Progesterone Receptor Kits Unduly Complex

Technology-based products, such as tests for serious diseases such as breast cancer, have the potential to give rise to intellectual property disputes. *See, e.g., Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013). The risk of such disputes must be considered by companies like Agilent in designing business processes and in making major decisions, such as where to locate manufacturing operations.

The use of common components has for decades been a common way for companies like Agilent to achieve cost efficiencies.[49] As discussed above, Agilent maintains sales and manufacturing operations around the globe, using modern supply chain management systems.

The Federal Circuit's decision suggests that if Agilent makes a component like the wash buffer in the U.S., it potentially subjects itself to a jurisdictional hook triggering U.S. patent liability for all products manufactured outside the U.S. in which the wash buffer is used. Likewise, if the wash buffer is manufactured in several locations, shifting supply to the U.S. in response to a need elsewhere could trigger U.S. patent liability. This is a serious concern to companies like Agilent that would like to locate manufacturing where it makes sense from an operational standpoint, while also respecting the legitimate patent rights of others.

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[49] *See* Chopra & Sodhi, *supra* n.23, at 77.

III. THE FEDERAL CIRCUIT'S DECISION INCREASES THE RISK AND COST OF U.S. MANUFACTURING OF COMPONENTS AND THEREBY DISCOURAGES U.S. MANUFACTURING

Section 271(f) was enacted to "close a loophole" in response to this Court's decision in *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518 (1972). *See* 1984 U.S. Code Cong. & Admin. News, p. 5827, *Section-By-Section Analysis of H.R. 6286, Patent Law Amendments Act of 1984*, 130 Cong. Rec. H 10525 (Oct. 1, 1984).

It is one thing to tell U.S. manufacturers that they cannot avoid global patent liability by inducing their customers to assemble overseas a product that consists of a "substantial portion" of U.S.-made components. Such technical workarounds would previously have allowed manufacturers to adhere to the strict letter, but in Congress's view, not the spirit of the law.

It is quite another thing to say that inclusion of any "necessary" component manufactured in the U.S. is a jurisdictional hook that potentially triggers U.S. patent liability. U.S. manufacturing can be desirable, thanks to its speed, quality, and proximity to U.S. customers. But the Federal Circuit's message to U.S. manufacturers, especially in industries in which patent liability is a prevalent concern, is to not use U.S.-made components unless absolutely necessary.

The Federal Circuit's decision also discourages companies from constructing and investing in their own manufacturing infrastructure in the U.S. Modern supply chain management requires companies to have the capacity to rapidly shift production and products worldwide in response to

change. Many U.S. companies can ill afford the time or resources to undertake a comprehensive component-by-component patent risk analysis when making decisions to source components from one location versus another, especially where the analysis is complex, potentially ambiguous, and relates to individual components that are common, staple, and would not themselves invoke patent liability. One solution to the problem presented by the Federal Circuit's interpretation would be to isolate U.S. manufactured components for use only in products that will be finished and sold in the U.S. But that is inconsistent with the realities of modern manufacturing — the fundamental point of modern supply chain management is to promote efficiency, reduce cost, and facilitate rapid deployment of materials, components and products, globally.

In the wake of the Federal Circuit's decision, manufacturers will now need to take an increased level of exposure for global sales into consideration in their evaluation of the risks associated with their manufacturing operations. This increased liability will place a thumb on the scale in favor of foreign manufacturing, which is not what the statutory text requires, and not what Congress intended when enacting the statue.

CONCLUSION

This Court should grant the Petition for Certiorari, and review the decision of the Federal Circuit, for the reasons explained above and by Petitioners.

Respectfully submitted.

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Petitioners,

—v.—

PROMEGA CORPORATION,

Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF *AMICUS CURIAE* OF PROFESSOR TIMOTHY R. HOLBROOK IN SUPPORT OF PETITIONERS

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INTEREST OF THE *AMICUS CURIAE*[1]

Amicus Timothy R. Holbrook is a law professor who specializes in patent law. He has particular interest in the extraterritorial application of U.S. patent law, having authored five law review articles and three amicus briefs dealing with the issue. Amicus has no personal stake in the outcome of this case but has an interest in seeing that the patent laws develop in a way that promotes rather than impedes innovation.

SUMMARY OF THE ARGUMENT

This Court has made clear that, absent a clear expression from Congress, U.S. laws do not apply extraterritorially. The Court has noted that the presumption against extraterritoriality has particular force in the context of patent law. The Federal Circuit has given short shrift to this

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[1] Pursuant to Supreme Court Rule 37.6, *amicus curiae* affirms that no counsel for a party authored this brief in whole or in part, that no counsel or a party made a monetary contribution intended to the preparation or submission of this brief and no person other than *amicus curiae*, their members, or their counsels made a monetary contribution to its preparation or submission.

Pursuant to Supreme Court Rule 37.2, amicus provided notice to respondents of the intent to file this brief on July 15, 2015, at least ten days prior to the deadline for filing this brief. Respondent consented in writing to the filing of this brief, which is being filed with this brief. Petitioners filed blanket consent to the filing of amicus briefs, which is on file with the clerk.

argument. This case presents the opportunity for the Court to strike the appropriate extraterritorial reach for a U.S. patent under 35 U.S.C. § 271(f) and to signal to the Federal Circuit to take the presumption against extraterritoriality seriously.

ARGUMENT

I. THE SUPREME COURT HAS CREATED A STRONG PRESUMPTION AGAINST THE EXTRATERRITORIAL APPLICATION OF UNITED STATES LAW, AND PARTICULARLY UNITED STATES PATENT LAW

The Supreme Court has established that there is a strong presumption against the extraterritorial application of U.S. law. *See, e.g., Kiobel v. Royal Dutch Petroleum Co.*, 133 S. Ct. 1659 (2013) (relying on presumption to decline to extend reach of Alien Tort Statute); *Morrison v. Nat'l Australia Bank Ltd.*, 561 U.S. 247 (2010) (relying on presumption to decline application of United States securities law to foreign conduct); *E.E.O.C. v. Arabian Am. Oil Co.*, 499 U.S. 244 (1991) (using presumption to decline application of Title VII to employment practices of US employers employing US citizens abroad). Although Congress undisputedly has the authority to regulate acts outside of the territorial boundaries of the United States, the Court has recognized that "legislation of Congress, unless a contrary intent appears, is meant to apply only within the territorial

jurisdiction of the United States." *Foley Bros. v. Filardo*, 336 U.S. 281, 285 (1949).

As this Court has noted, "[w]hen a statute gives no clear indication of an extraterritorial application, it has none." *Morrison v. Nat'l Australia Bank Ltd.*, 561 U.S. 247, 248 (2010). While falling short of a "clear statement rule," *see id.* at 265, *Morrison* emphasized the importance and power of the rule: "the presumption against extraterritorial application would be a craven watchdog indeed if it retreated to its kennel whenever some domestic activity is involved in the case." *Id.* at 266; *see also* Timothy R. Holbrook, *Should Foreign Patent Law Matter?*, 34 CAMPBELL L. REV. 581, 601-07 (2012) (discussing implications of *Morrison* for patent law).

This watchdog has particular bite in the context of patent law. *See Microsoft Corp. v. AT&T Corp.*, 550 U.S. 427, 454-55 (2007) ("The presumption that United States law governs domestically but does not rule the world applies with particular force in patent law."). Indeed, as far back as 1856, this Court rejected the extraterritorial reach of a patent: "The power thus granted is domestic in its character, and necessarily confined within the limits of the United States." *Brown v. Duchesne*, 60 U.S. 183, 195 (1856) (holding U.S. patent rights do not extend to invention on foreign vessel in U.S. port).

More recently, the Court again rejected a party's attempt to use its patent to control extraterritorial activity. In *Deepsouth Packing Co. v. Laitram Corp.*, the Supreme Court concluded that the manufacture of all components of a patented

invention in the United States, that subsequently was assembled abroad, did not constitute infringement of a U.S. patent. 406 U.S. 518, 529 (1972). The Court emphasized that "[o]ur patent system makes no claim to extraterritorial effect." *Id.* at 531. Without a clear statement from Congress that the statute was meant to apply to activity outside of the territorial limits of the United States, the Supreme Court refused to grant the statute such an expansive scope.

Although Congress provided the "clear and certain" signal, abrogating *Deepsouth* in part by adopting 35 U.S.C. § 271(f) in 1984, the Supreme Court relied on the presumption against extraterritoriality to narrowly construe that provision. In *Microsoft Corp. v. AT&T Corp.*, the Court held (1) that only computer software, not software in the abstract, could constitute a "component" under § 271(f), 550 U.S. 437, 449-50 (2007), and (2) that such components were not "supplied" under § 271(f) when copies of the software were made outside of the United States. *Id.* at 452-54. To support its interpretation, the Court specifically noted that "[a]ny doubt that Microsoft's conduct falls outside § 271(f)'s compass would be resolved by the presumption against extraterritoriality." *Id.* at 454. Notwithstanding that Congress explicitly abrogated *Deepsouth* to afford some extraterritorial protection to U.S. patent holders, the Court rejected AT&T's argument that the presumption was inapplicable and used the presumption to construe § 271(f) narrowly. *Id.* at 454-56. *See generally* Timothy R. Holbrook,

Extraterritoriality in U.S. Patent Law, 49 WM. & MARY L. REV. 2119, 2135-36 (2008) (discussing importance of the use of the presumption in *Microsoft*).

II. THE FEDERAL CIRCUIT CONSISTENTLY FAILS TO CONSIDER THE PRESUMPTION AGAINST EXTRATERRITORIALITY IN INTERPRETING THE PATENT LAWS.

Notwithstanding the clear message from the Supreme Court regarding the presumption against the extraterritorial application of U.S. law – and patent law in particular – the Federal Circuit has consistently failed to give the presumption its due weight. This case is but one of many that exemplifies this failure, and thus it provides an vehicle for the Court to correct the Federal Circuit's course.

A. In Various Other Cases, the Federal Circuit Has Given the Presumption Against Extraterritoriality Short Shrift.

Notwithstanding the Court's clear statement that the presumption against the extraterritorial application of United States law has "particular force" in patent law, *Microsoft*, 550 U.S. at 455, the Federal Circuit's application of the presumption has been, at best, inconsistent. *See generally* Holbrook, *Extraterritoriality*, *supra* at 2136-54. Generally, the court has been willing to afford extraterritorial

protection to U.S. patent holders while rarely affording the presumption much weight.

For example, in *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc.*, 617 F.3d 1296 (Fed. Cir. 2010), the Federal Circuit held that there was an infringing offer to sell an invention if the sale contemplated in the offer was to be in the United States, even though all negotiations took place outside of the United States. *Id.* at 1309. As a result of this holding, a party can be liable for patent infringement in the United States notwithstanding that there has never been any activity within the United States. Timothy R. Holbrook, *Territoriality and Tangibility After* Transocean, 61 EMORY L.J. 1087, 1112 (2011). While the Federal Circuit acknowledged the presumption, it failed to account for the broad extraterritorial reach its decision afforded to United States patents. When Maersk filed a petition for a writ of certiorari, the Supreme Court asked for the Solicitor General's views on the case, but the case ultimately settled.[2]

The Federal Circuit similarly has afforded extraterritorial protection for the use of systems that straddle national borders. In *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282 (Fed. Cir. 2005), the court found infringement of a mobile email system

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[2] Subsequently, the Federal Circuit has held that there is no infringement when the offer takes place in the United States but the contemplated sale is to occur outside of the United States. *See* Halo Elecs., Inc. v. Pulse Elecs., Inc., 769 F.3d 1371, 1381 (Fed. Cir. 2014).

where part of the system – the relay – was located in Canada. *Id.* at 1317. The court concluded that, while part of the system was outside of the United States, the use of the system was within the United States because the users controlled the devices and obtained the benefit of the system – receipt of email – in the United States. *Id.* at 1316-17. At no point did the court mention the presumption against extraterritoriality in affording this protection.

Finally, in interpreting the provision at issue in this case, 35 U.S.C. §271(f), the Federal Circuit generally has been expansive in its interpretation. For example, the Federal Circuit has held that there is infringement under § 271(f) even if the device is never assembled outside of the United States. *Waymark Corp. v. Porta Systems Corp.*, 245 F.3d 1364, 1368 (Fed. Cir. 2001). This interpretation expands the scope of this provision by ensnaring conduct abroad regardless of whether the device has been assembled. Oddly the Federal Circuit suggested this interpretation avoided the appearance of providing extraterritorial reach to United States, *id.*, yet the court's decision actually expanded such reach.

The Federal Circuit also held that a "component" under § 271(f) could be an intangible item such as software, *Eolas Techs. Inc. v. Microsoft Corp.*, 399 F.3d 1325, 1339 (Fed. Cir. 2005) and that supplying the component included software replicated abroad from a master version, *AT&T Corp. v. Microsoft Corp.*, 414 F.3d 1366, 1370 (Fed. Cir. 2005), *rev'd Microsoft Corp. v. AT&T Corp.*, 550

U.S. 437 (2007). The Supreme Court rejected in part these expansive interpretations of the statute in *Microsoft Corp. v. AT&T Corp.*, *see* 550 U.S. at 451-54, but these cases again show that the Federal Circuit consistently provides § 271(f) an expansive interpretation while failing to give proper account of the presumption against extraterritoriality.[3]

B. In This Case, the Federal Circuit Failed to Consider the Presumption in Affording § 271(f) an Expansive Interpretation.

The Federal Circuit has a penchant for providing extraterritorial protection for U.S. patent holders without giving appropriate consideration to the presumption against such reach, particularly in patent law. This case is consistent with the Federal Circuit's failure to take the presumption seriously.

Here, the Federal Circuit majority never even mentioned the presumption, let alone assessed

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[3] The Federal Circuit has provided a narrow interpretation of §271(f), concluding it does not apply to patented methods or processes. *See Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc.*, 576 F.3d 1348, 1359 (Fed. Cir. 2009) (en banc in relevant part). The Federal Circuit in *Cardiac Pacemaker* did rely on the presumption to afford § 271(f) a narrow interpretation. *See id.* at 1365 ("Any ambiguity as to Congress's intent in enacting Section 271(f) is further resolved by the presumption against extraterritoriality.").

whether it had been rebutted.[4] There is not a single citation to *Morrison* or *Kiobel*, the Supreme Court's most recent cases discussing the presumption.

Unsurprisingly, both of the interpretations of § 271(f) provided by the Federal Circuit in this case expand its extraterritorial reach. By holding that an entity can induce itself to assemble the components abroad, *Promega Corp. v. Life Techs. Corp.*, 773 F.3d 1338, 1351 (Fed. Cir. 2014), the court expanded the set of actors who can now be liable under this provision. Aside from whether this is a proper interpretation of the meaning of "induce" – particularly in contrast to the inducement provision found in 35 U.S.C. § 271(b) – the court's interpretation creates greater extraterritorial reach for the statute. Limiting the provision to inducement of third party activities necessarily eliminates some parties – such as Life Tech – who send materials overseas to themselves from the scope of § 271(f), lessening its extraterritorial impact. Yet the Federal Circuit never considered the presumption in offering this interpretation of the statute. The Federal Circuit's failure to consider the presumption thus commends itself to Supreme Court review.

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[4] In her dissent, Chief Judge Prost noted that "the Supreme Court has cautioned against employing a policy-oriented approach to judicial decision making when it would cause law to have extraterritorial application," thus alluding to the presumption. *Promega Corp. v. Life Techs. Corp.*, 773 F.3d 1338, 1360 (Fed. Cir. 2014) 1360 (Prost, C.J., dissenting-in-part).

Similarly, the Federal Circuit's interpretation of "all or a substantial portion of the components of a patented invention" to include a *single* component, *see Promega*, 773 F.3d at 1353, dramatically expands the extraterritorial reach of § 271(f). As the provision most directly related to *Deepsouth*, it is clear that § 271(f) is meant to deal with multiple components being shipped abroad, and the "substantial portion" was to combat potential gaming of the statutory regime by sending *nearly* all of the components. In that context, the extraterritorial scope is fairly circumscribed and limited to address the situation in *Deepsouth*. The Federal Circuit's interpretation disrupts such proportionality.

Moreover, the court's interpretation renders § 271(f)(2) superfluous. That provision explicitly addresses the exportation of a single component that is to be combined abroad in a device that would be infringing if in the United States. Importantly, Congress recognized the potential broad scope of such a provision and carefully limited it to components that have no substantial non-infringing use. Section 271(f)(1) in contrast has no such safe harbor. As such, the Federal Circuit's interpretation not only swallows § 271(f)(2) but also removes its important limitations. The court again interpreted this statute in an expansive way without reference to the presumption against extraterritoriality.

The result of both of these interpretations is to create broader extraterritorial reach for § 271(f)(1). The Federal Circuit's failure to mention, let alone

engage with, the presumption against extraterritoriality merits review in this case, particularly given the Federal Circuit's penchant for failing to give the presumption appropriate weight.

CONCLUSION

The Supreme Court has emphasized the importance of the presumption against the application of United States laws extraterritorially, a presumption that the Federal Circuit ignored in this case and generally fails to consider consistently and appropriately. As such, this case is an appropriate vehicle for the Supreme Court to emphasize the importance of the presumption, particularly in the area of patent law.

Respectfully submitted,

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RECORD AND BRIEFS

No. 14-1538

SEP 1 - 2016
OFFICE OF THE CLERK

IN THE

Supreme Court of the United States

LIFE TECHNOLOGIES CORPORATION; INVITROGEN IP HOLDINGS, INC; APPLIED BIOSYSTEMS, LLC,
Petitioners,

v.

PROMEGA CORPORATION,
Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

JOINT APPENDIX

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PETITON FOR CERTIORARI FILED JUNE 26, 2015
CERTIORARI GRANTED JUNE 27, 2016

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NOTICE

The following documents have been omitted from the printing of this Joint Appendix. They may be found in the Petitioners' Appendix to the 14-1538 Petition For A Writ Of Certiorari at the following pages:

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U.S. DISTRICT COURT
WESTERN DISTRICT OF WISCONSIN (MADISON)

Civil Docket For Case #: 3:10-cv-00281-bbc

PROMEGA CORPORATION ET AL

v.

LIFE TECHNOLOGIES CORPORATION

RELEVANT DOCKET ENTRIES

DATE	NO.	PROCEEDINGS
05/26/2010	1	PATENT COMPLAINT against all defendants (Filing fee $350 receipt number 075800000000000559067) filed by all plaintiffs. (Sealed Document) PATENTS AT ISSUE: Patent # 5843660, issued 12/01/1998, held by Promega Corporation; Patent # 6,221,598, issued 04/24/2001, held by Promega Corporation; Patent # 6,479,235, issued 11/12/2002, held by Promega Corporation; Patent # 7,008,771, issued 03/07/2006, held by Promega Corporation; Patent # RE37,984, issued 02/11/2003, held by Max-Planck-Gesellschaft zu Forderung der Wissenschaften e.V. (Attachments: # 1 Exhibit A - U.S.Patent No. 5,843,660, # 2 Exhibit B - U.S. Patent No.

DATE	NO.	PROCEEDINGS
		6,221,598, # 3 Exhibit C - U.S. Patent No. 6,479,235, # 4 Exhibit D - U.S. Patent No. 7,008,771, # 5 Exhibit E - U.S. Patent No. RE37,984, # 6 Exhibit F - 1996 License Agreement, # 7 Exhibit G - ABI Cross License, # 8 JS-44 Civil Cover Sheet, # 9 Summons, # 10 Report on Filing Patent/Trademark Action) (Troupis, James) Modified on 6/9/2010 (arw). Exhibits unsealed per dkt. 779 on 7/11/2013 (rep). (Entered: 05/26/2010)
		* * * *
09/02/2011	227	MOTION FOR SUMMARY JUDGMENT by Plaintiff Promega Corporation. Brief in Opposition due 9/23/2011. Brief in Reply due 10/3/2011. (Troupis, James) (Entered: 09/02/2011)
		* * * *
11/29/2011	345	ORDER denying as unnecessary 293 Motion for Leave to File; granting 262 Motion to Strike; granting in part and denying in part 227 and 234 Motions for Summary Judgment. Signed by District Judge Barbara B. Crabb on 11/29/2011. (llj) (Entered: 11/29/2011)
		* * * *

DATE	NO.	PROCEEDINGS
02/01/2012	485	Stipulation *to Expand Summary Judgment Ruling and Request to Try All Remaining Issues in Single Trial* by Counter Claimants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation, Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation, Plaintiffs Max-Planck-Gesellschaft zur Forderung der Wissenschaften E.V., Promega Corporation, Counter Defendant Promega Corporation. (Johnson, Kristine) Modified on 2/2/2012 (jaf). Modified on 2/2/2012 (llj). (Entered: 02/01/2012)
02/01/2012	486	ORDER ruling on motions to strike, motions in limine and motion to dismiss. Signed by District Judge Barbara B. Crabb on 2/1/2012. (llj) (Entered: 02/01/2012)
		* * * *
02/06/2012	512	ORDER amending 11/29/2011 order 345 to grant summary judgment to plaintiff Promega Corporation with respect to infringement of that product and claim. Signed by District Judge Barbara B. Crabb on 2/6/2012. (llj) (Entered: 02/06/2012)
		* * * *

DATE	NO.	PROCEEDINGS
02/06/2012	517	Transcript of 1st Day Jury Trial, morning session, held 2/6/2012 before Judge Barbara B. Crabb. Court Reporter: LS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/06/2012)
02/06/2012	518	Minute Entry for proceedings held before District Judge Barbara B. Crabb: Jury Selection held on 2/6/2012. [2:32] (Court Reporter LS.) (krj) (Entered: 02/06/2012)
02/06/2012	519	Amended Deposition Designations (*Third Amended*) by Counter Claimants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation, Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. (McCarthy, Michael) (Entered: 02/06/2012)
02/06/2012	520	Trial Brief re: Grounds for Equitable Defenses, filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. (Sealed Document) (Johnson, Kristine) Modified on 2/7/2012 (llj). (Entered: 02/06/2012)

DATE	NO.	PROCEEDINGS
02/07/2012	521	Transcript of 1st Day Jury Trial, afternoon session, held 2/6/2012 before Judge Barbara B. Crabb. Court Reporter: LS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/07/2012)
02/07/2012		Set/Reset Trial Date: 2nd Day Jury Trial set for 2/8/2012 at 9:00 AM. (lak) (Entered: 02/07/2012)
02/07/2012	522	Transcript of 2nd Day Jury Trial, Volume 2-A, held 2/7/2012 before Judge Barbara B. Crabb. Court Reporter: LS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/07/2012)
02/07/2012	523	Redacted Trial Brief 520 re: Grounds for Equitable Defenses, by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation (Johnson, Kristine) Modified on 2/8/2012 (llj). (Entered: 02/07/2012)
02/07/2012	524	Notice by Counter Claimants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life

DATE	NO.	PROCEEDINGS
		Technologies Corporation, Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation *of Stipulation Regarding Worldwide Sales of STR Kits.* (Sealed Document) (McCarthy, Michael) Modified on 2/8/2012 (llj). (Entered: 02/07/2012)
02/07/2012	525	Amended Deposition Designations (*Fourth Amended*) by Counter Claimants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation, Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. (McCarthy, Michael) (Entered: 02/07/2012)
02/08/2012	526	Minute Entry for proceedings held before District Judge Barbara B. Crabb: 2nd Day Jury Trial held on 2/7/2012. Trial continues. [6:38] (Court Reporter LS/CS.) (krj) Modified on 2/9/2012 (krj). (Main Document 526 replaced on 2/9/2012) (krj). (Entered: 02/08/2012)
02/08/2012	527	Transcript of 2nd Day Jury Trial, Volume 2C, held 2/7/2012 before Judge Barbara B. Crabb. Court Reporter: LS. Please review the court policy regarding electronic

DATE	NO.	PROCEEDINGS
		transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/08/2012)
02/08/2012		Set/Reset Trial Date: 3rd Day Jury Trial set for 2/9/2012 at 9:00 AM. (lak) (Entered: 02/08/2012)
02/09/2012	528	Minute Entry for proceedings held before District Judge Barbara B. Crabb: 3rd Day Jury Trial held on 2/8/2012. Trial continues. [6:46] (Court Reporter LS/CS.) (krj) Modified on 2/9/2012 (krj). (Main Document 528 replaced on 2/9/2012) (krj). (Entered: 02/09/2012)
02/09/2012	529	Transcript of 3rd Day Jury Trial, Volume 3C, held 2/8/2012 before Judge Barbara B. Crabb. Court Reporter: LS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/09/2012)
02/09/2012	530	Transcript of 3rd Day Jury Trial, Volume 3A, held 2/8/2012 before Judge Barbara B. Crabb. Court Reporter: LS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions, and Notice

DATE	NO.	PROCEEDINGS
		of Intent to Request Redaction. (llj) (Entered: 02/09/2012)
02/09/2012		Set/Reset Trial Date: 4th Day Jury Trial set for 2/10/2012 at 9:00 AM. (lak) (Entered: 02/09/2012)
02/09/2012	531	Transcript of 4th Day Jury Trial, Volume 4A, held 2/9/2012 before Judge Barbara B. Crabb. Court Reporter: LS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/09/2012)
02/09/2012	532	Motion in Limine *No. 12: Barring Testimony of Dr. Jessica Booker as to the Reasonableness of Defendants' Interpretation of the 2006 License Agreement* by Plaintiff Promega Corporation. (Troupis, Sarah) (Entered: 02/09/2012)
02/10/2012	533	Minute Entry for proceedings held before District Judge Barbara B. Crabb: 4th Day Jury Trial held on 2/9/2012. Trial continues. [6:35] (Court Reporter LS/CS.) (krj) (Entered: 02/10/2012)
02/10/2012		Set/Reset Trial Date: 6th Day Jury Trial set for 2/13/2012 at 09:00 AM (krj) (Entered: 02/10/2012)

DATE	NO.	PROCEEDINGS
02/10/2012	534	Transcript of 4th Day Jury Trial, Volume 4C, held 2/9/2012 before Judge Barbara B. Crabb. Court Reporter: LS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/10/2012)
02/12/2012	535	Supplemental Objections to *and Proposed Revisions to Jury Instructions and Special Verdict Form* by Plaintiff Promega Corporation (Attachments: # 1 Exhibit A - Stipulation on Sales, # 2 Exhibit B - Feb. 6 Email, # 3 Exhibit C - Excerpt from 2/6/12 Transcript, # 4 Exhibit D - Excerpt from 2/9/12 Transcript) (Troupis, Sarah) (Entered: 02/12/2012)
02/12/2012	536	Motion to Strike *the Errata Sheet of Daniel Hall* by Plaintiff Promega Corporation. Response due 2/21/2012. (Troupis, Sarah) (Entered: 02/12/2012)
02/12/2012	537	Brief in Support of 536 Motion to Strike *the Errata Sheet of Daniel Hall* by Plaintiff Promega Corporation (Troupis, Sarah) (Entered: 02/12/2012)

DATE	NO.	PROCEEDINGS
02/12/2012	538	Motion in Limine *No. 13: Barring Testimony of Jonathan Tomlin Outside the Scope of His Expert Report* by Plaintiff Promega Corporation. (Troupis, Sarah) (Entered: 02/12/2012)
02/13/2012	539	Minute Entry for proceedings held before District Judge Barbara B. Crabb: 5th Day Jury Trial held on 2/10/2012. Trial continues. [6:17] (Court Reporter LS/CS.) (krj) (Entered: 02/13/2012)
02/13/2012	540	Supplemental Objections *and Proposed Revisions to the Proposed Post-Trial Jury Instructions and Special Verdict Forms* by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. (Attachments: #1 Exhibit A - Post-Trial Instructions, # 2 Exhibit B - Federal Circuit Opinion) (Johnson, Kristine) Modified on 2/14/2012 (jaf). Modified on 2/14/2012 (llj). (Entered: 02/13/2012)
02/13/2012	541	Transcript of 5th Day Jury Trial, Volume 5C, held 2/10/2012 before Judge Barbara B. Crabb. Court Reporter: LS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice

DATE	NO.	PROCEEDINGS
		of Intent to Request Redaction. (llj) (Entered: 02/13/2012)
02/13/2012	542	Transcript of 5th Day Jury Trial, Volume 5A, held 2/10/2012 before Judge Barbara B. Crabb. Court Reporter: LS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/13/2012)
02/13/2012	543	Transcript of 2nd Day Jury Trial, Volume 2B, held 2/7/2012 before Judge Barbara B. Crabb. Court Reporter: CS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/13/2012)
02/13/2012	544	Transcript of 2nd Day Jury Trial, Volume 2D, held 2/7/2012 before Judge Barbara B. Crabb. Court Reporter: CS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/13/2012)
02/13/2012	545	Transcript of 3rd Day Jury Trial, Volume 3B, held 2/8/2012 before Judge Barbara B. Crabb. Court

DATE	NO.	PROCEEDINGS
		Reporter: CS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/13/2012)
02/13/2012	546	Transcript of 3rd Day Jury Trial, Volume 3D, held 2/8/2012 before Judge Barbara B. Crabb. Court Reporter: CS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/13/2012)
02/13/2012	547	Transcript of 4th Day Jury Trial, Volume 4B, held 2/9/2012 before Judge Barbara B. Crabb. Court Reporter: CS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/13/2012)
02/13/2012	548	Transcript of 4th Day Jury Trial, Volume 4D, held 2/9/2012 before Judge Barbara B. Crabb. Court Reporter: CS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/13/2012)

DATE	NO.	PROCEEDINGS
02/13/2012	549	Transcript of 5th Day Jury Trial, Volume 5B, held 2/10/2012 before Judge Barbara B. Crabb. Court Reporter: CS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/13/2012)
02/13/2012	550	Transcript of 5th Day Jury Trial, Volume 5D, held 2/10/2012 before Judge Barbara B. Crabb. Court Reporter: CS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/13/2012)
02/13/2012		Set/Reset Trial Date: 7th Day Jury Trial set for 2/14/2012 at 9:00 AM. (lak) (Entered: 02/13/2012)
02/13/2012	551	Video Deposition Designations *Presented at Trial* by Plaintiff Promega Corporation. (Attachments: # 1 Exhibit A - Video Designations) (Troupis, Sarah) Modified on 2/14/2012 (llj). (Entered: 02/13/2012)
02/13/2012	552	Final Deposition Designations *Presented to the Jury* by Counter Claimants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc.,

DATE	NO.	PROCEEDINGS
		Life Technologies Corporation, Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. (Sealed Document) (McCarthy, Michael) Modified on 2/14/2012 (llj). (Entered: 02/13/2012)
02/14/2012	553	Third Objections to *Jury Instructions and Special Verdict Form* by Plaintiff Promega Corporation (Troupis, James) Modified on 2/14/2012 (jaf). Modified on 2/15/2012 (llj). (Entered: 02/14/2012)
02/14/2012	554	Minute Entry for proceedings held before District Judge Barbara B. Crabb: 6th Day Jury Trial held on 2/13/2012. Trial continues. [6:55] (Court Reporter LS/CS.) (krj) (Entered: 02/14/2012)
02/14/2012	555	Transcript of 6th Day Jury Trial, Volume 6C, held 2/13/2012 before Judge Barbara B. Crabb. Court Reporter: LS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/14/2012)
02/14/2012	556	Transcript of 6th Day Jury Trial, Volume 6A, held 2/13/2012 before Judge Barbara B. Crabb. Court

DATE	NO.	PROCEEDINGS
		Reporter: LS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/14/2012)
02/14/2012		Set/Reset Trial Date: 8th Day Jury Trial set for 2/15/2012 at 09:00 AM. (llj) (Entered: 02/14/2012)
02/14/2012	557	Transcript of 6th Day Jury Trial, Volume 6B, held 2/13/2012 before Judge Barbara B. Crabb. Court Reporter: CS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/14/2012)
02/14/2012	558	Transcript of 6th Day Jury Trial, Volume 6D, held 2/13/2012 before Judge Barbara B. Crabb. Court Reporter: CS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/14/2012)
02/14/2012	559	Transcript of 6th Day Jury Trial, Volume 6E, held 2/13/2012 before Judge Barbara B. Crabb. Court Reporter: CS. Please review the court policy regarding electronic

DATE	NO.	PROCEEDINGS
		transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/14/2012)
02/14/2012	560	Notice by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation *of Proffer of Excluded Witness Testimony.* (Johnson, Kristine) (Entered: 02/14/2012)
02/14/2012	561	Notice by Counter Claimants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation, Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation *of Proffer of Anticipated Testimony of Arthur Eisenberg.* (McCarthy, Michael) (Entered: 02/14/2012)
02/15/2012	562	Minute Entry for proceedings held before District Judge Barbara B. Crabb: 7th Day Jury Trial held on 2/15/2012. Trial continues. [5:38] (Court Reporter LS/CS.) (krj) (Entered: 02/15/2012)
02/15/2012	563	Transcript of 7th Day Jury Trial, Volume 7A, held 2/14/2012 before Judge Barbara B. Crabb. Court Reporter: LS. Please review the court policy regarding electronic

DATE	NO.	PROCEEDINGS
		transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/15/2012)
02/15/2012	564	Minute Entry for proceedings held before District Judge Barbara B. Crabb: 8th Day Jury Trial held on 2/15/2012. Verdict returned in favor of Promega Corporation. [:10] (Court Reporter LS.) (krj) (Entered: 02/15/2012)
02/15/2012	565	Introductory Jury Instructions. (krj) (Entered: 02/15/2012)
02/15/2012	566	Liability and Damages Jury Instructions. (krj) (Entered: 02/15/2012)
02/15/2012	567	Jury Verdict - Liability and Damages. (krj) (Entered: 02/15/2012)
02/15/2012	568	Exhibit List by Plaintiff Promega Corporation. (Attachments: # 1 Exhibit List, Part 2) (krj) (Entered: 02/15/2012)
02/15/2012	569	Exhibit List by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. (krj) (Entered: 02/15/2012)
02/16/2012	570	Court Exhibit List (Sealed Document). (Attachments: # 1 Jury Note) (krj) (Entered: 02/16/2012)

DATE	NO.	PROCEEDINGS
02/16/2012	571	Transcript of 8th Day Jury Trial, held 2/15/2012 before Judge Barbara B. Crabb. Court Reporter: LS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/16/2012)
02/16/2012	572	Transcript of 7th Day Jury Trial, Volume 7B, held 2/14/2012 before Judge Barbara B. Crabb. Court Reporter: CS. Please review the court policy regarding electronic transcripts: see Electronic Transcript Instructions and Notice of Intent to Request Redaction. (llj) (Entered: 02/16/2012)
02/23/2012	573	JUDGMENT in favor of Promega Corporation against Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., and Life Technologies Corporation in the amount of $ 52,009,941.00. (BBC / PAO) (krj) (Entered: 02/23/2012)
03/07/2012	574	Status Report *re: post-trial motions and briefing deadlines* by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation (Modl, Michael) Modified on 3/8/2012 (llj). (Entered: 03/07/2012)

DATE	NO.	PROCEEDINGS
03/08/2012	575	** TEXT ONLY ORDER ** The court notes the schedule set forth in 574 re: filing of Rule 50 and 59 motions in this case. Signed by District Judge Barbara B. Crabb on 3/8/2011. (llj) (Entered: 03/08/2012)
03/12/2012	576	Joint Stipulation to Reset Certain Post-Trial Filing Dates by Plaintiff Promega Corporation. (Troupis, Sarah) Modified on 3/13/2012 (llj). (Entered: 03/12/2012)
03/14/2012	577	** TEXT ONLY ORDER ** ORDER approving 576 Joint Stipulation to Reset Certain Post-Trial Filing Dates. Signed by District Judge Barbara B. Crabb on 3/14/2012. (llj) (Entered: 03/14/2012)
03/22/2012	578	MOTION FOR JUDGMENT AS A MATTER OF LAW *On Lost Profits Calculation* by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. Brief in Opposition due 4/12/2012. Brief in Reply due 4/23/2012. (Johnson, Kristine) (Entered: 03/22/2012)
03/22/2012	579	Brief in Support of 578 Motion for Judgment as a Matter of Law, *Regarding Lost Profits Calculation* by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation

DATE	NO.	PROCEEDINGS
		(Johnson, Kristine) (Entered: 03/22/2012)
03/22/2012	580	MOTION FOR JUDGMENT AS A MATTER OF LAW *Regarding 35 USC 271(a) and (f)(1)* by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. Brief in Opposition due 4/12/2012. Brief in Reply due 4/23/2012. (Johnson, Kristine) (Entered: 03/22/2012)
03/22/2012	581	Brief in Support of 580 Motion for Judgment as a Matter of Law, *Regarding 35 USC 271(a) and (f)(1)* by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation (Johnson, Kristine) (Entered: 03/22/2012)
03/22/2012	582	Motion for New Trial *Regarding Allocation of Burden* by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. (Johnson, Kristine) (Entered: 03/22/2012)
03/22/2012	583	Brief in Support of 582 Motion for New Trial *Regarding Allocation of Burden* by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies

DATE	NO.	PROCEEDINGS
		Corporation (Johnson, Kristine) (Entered: 03/22/2012)
03/22/2012	584	Motion for New Trial *Based on Royalties Previously Paid* by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. (Johnson, Kristine) (Entered: 03/22/2012)
03/22/2012	585	Brief in Support of 584 Motion for New Trial *Based on Royalties Previously Paid* by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation (Johnson, Kristine) (Entered: 03/22/2012)
03/22/2012	586	Motion for New Trial *on Aggregate of Errors* by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. (Johnson, Kristine) (Entered: 03/22/2012)
03/22/2012	587	Brief in Support of 586 Motion for New Trial *Based on Aggregate of Errors* by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation (Johnson, Kristine) (Entered: 03/22/2012)
03/22/2012	588	MOTION FOR JUDGMENT AS A MATTER OF LAW *on Non Willfulness* by Defendants Applied

DATE	NO.	PROCEEDINGS
		Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. Brief in Opposition due 4/12/2012. Brief in Reply due 4/23/2012. (Johnson, Kristine) (Entered: 03/22/2012)
03/22/2012	589	Brief in Support of 588 Motion for Judgment as a Matter of Law, *on NonWillfulness* by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation (Sealed Document) (Johnson, Kristine) (Entered: 03/22/2012)
03/23/2012	590	Motion to Amend Briefing Schedule *on Rule 50 & 59 Motions Consistent with March 14 Order* by Plaintiff Promega Corporation. Motions referred to Magistrate Judge Peter A. Oppeneer. Response due 3/30/2012. (Troupis, James) (Entered: 03/23/2012)
03/28/2012	591	** TEXT ONLY ORDER ** ORDER granting 590 Motion to Amend Briefing Schedule. Signed by District Judge Barbara B. Crabb on 3/28/2012. (llj) (Entered: 03/28/2012)
03/28/2012		Set/Reset Briefing Deadlines as to Rule 50 and Rule 59 Motions: Responses due 4/19/2012; Replies

DATE	NO.	PROCEEDINGS
		due 4/30/2012. (llj) (Entered: 03/28/2012)
03/29/2012	592	Motion to Amend Briefing Schedule *to extend reply brief filing date* by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. Motions referred to Magistrate Judge Peter A. Oppeneer. (Johnson, Kristine) Modified on 3/30/2012 (llj). (Entered: 03/29/2012)
04/02/2012	593	Bill of Costs by Plaintiff Promega Corporation. Motions referred to Magistrate Judge Peter A. Oppeneer. Objection to Bill of Costs due 4/12/2012. Brief in Support to Bill of Costs due 4/23/2012. Brief in Reply in Opposition to Bill of Costs due 4/27/2012. (Attachments: # 1 Declaration of Sarah E. Troupis in Support of Bill of Costs; see also entry 609, # 2 Fees for Service of Subpoena, # 3 Transcripts Part 1 of 3, # 4 Transcripts Part 2 of 3, # 5 Transcripts Part 3 of 3, # 6 Copying Costs, # 7 Fees of the Clerk) (Troupis, James) Requested attorney file declaration as separate docket entry on 4/3/2012 (jaf). Modified on 4/3/2012 (llj). Modified on 4/4/2012 (jaf). (Entered: 04/02/2012)

DATE	NO.	PROCEEDINGS
04/02/2012	594	Motion for Exceptional Case Finding by Plaintiff Promega Corporation. (Troupis, James) Modified on 4/5/2012 to remove automatic response date set by system (llj). (Entered: 04/02/2012)
04/02/2012	595	Brief in Support of 594 Motion for Exceptional Case Finding by Plaintiff Promega Corporation (Troupis, James) Modified on 4/3/2012 (llj). (Entered: 04/02/2012)
04/02/2012	596	Declaration of Attorney James R. Troupis filed by Plaintiff Promega Corporation re: 594 Motion for Miscellaneous Relief (Sealed Document) (Attachments: # 1 Exhibit A - Breakdown of Overall Fees, # 2 Exhibit B - Attorney Fee Breakdown, # 3 Exhibit C - Disbursement Breakdown, # 4 Exhibit D - Other Fees, # 5 Exhibit E - MBF & TLO Invoices (this Exhibit has been split into 9 files due to its size), # 6 Exhibit E Part 2, # 7 Exhibit E Part 3, # 8 Exhibit E Part 4, # 9 Exhibit E Part 5, # 10 Exhibit E Part 6, # 11 Exhibit E Part 7, # 12 Exhibit E Part 8, # 13 Exhibit E Part 9, # 14 Exhibit F - Husmann Invoices, # 15 Exhibit G - Expert Invoices) (Troupis, James) Modified on 4/3/2012 (jaf). Modified

DATE	NO.	PROCEEDINGS
		on 4/3/2012 (llj). (Entered: 04/02/2012)
04/02/2012	597	Declaration of John S. Skilton filed by Plaintiff Promega Corporation re: 594 Motion for Exceptional Case Finding (Attachments: # 1 Exhibit A - Rates Charged) (Troupis, James) Modified on 4/3/2012 (llj). (Entered: 04/02/2012)
04/02/2012	598	ORDER from Federal Circuit (2011-1263) affirming district court as to 147 Notice of Appeal, filed by Promega Corporation (Attachments: # 1 Notice of Entry of Judgment) (llj) (Entered: 04/02/2012)
04/02/2012	599	Motion for Enhanced Damages by Plaintiff Promega Corporation. (Troupis, James) (Entered: 04/02/2012)
04/02/2012	600	Brief in Support of 599 Motion for Enhanced Damages by Plaintiff Promega Corporation (Troupis, James) (Entered: 04/02/2012)
04/02/2012	601	MOTION FOR PERMANENT INJUNCTION by Plaintiff Promega Corporation. (Troupis, James) (Additional attachment(s) added on 4/2/2012: # 1 Text of Proposed Order) (lak). (Entered: 04/02/2012)

DATE	NO.	PROCEEDINGS
04/02/2012	602	Brief in Support of 601 Motion for Permanent Injunction by Plaintiff Promega Corporation (Troupis, James) (Entered: 04/02/2012)
04/02/2012	603	Declaration of Brandon M. Lewis filed by Plaintiff Promega Corporation re: 594 Motion for Exceptional Case Finding, 599 Motion for Enhanced Damages, 601 Motion for Permanent Injunction. (Attachments: # 1 Exhibit A - Responses to Promega Corporations Second Request for Admission, # 2 Exhibit B - Copies of Selected Correspondence Between Stewart Karge and Kristine Johnson, # 3 Exhibit C - Life Technologies Press Release, # 4 Exhibit D - Life Technologies Corp. Securities and Exchange Commission Form 10-K, Filed 02/29/12, # 5 Exhibit E - Computer Screen Shot Showing MSN Moneys Stock Balance Sheet for Life Technologies Corp., Taken 03/14/2012, # 6 Exhibit F - Computer Screen Shot Showing Life Technologies Financial Highlights, Taken 03/14/2012, # 7 Exhibit G - Select Plaintiff Trial Exhibits) (Troupis, James) Modified on 4/3/2012 (jaf). Modified on 4/3/2012 (llj). (Entered: 04/02/2012)

DATE	NO.	PROCEEDINGS
04/02/2012	604	Proposed Findings of Fact filed by Plaintiff Promega Corporation re: 601 Motion for Permanent Injunction (Troupis, James) (Entered: 04/02/2012)
04/02/2012	605	MOTION and Post Trial Brief *Regarding Defendants' Equitable Defenses* by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation (Johnson, Kristine) Modified on 4/3/2012 (llj). (Entered: 04/02/2012)
04/02/2012	606	Proposed Findings of Fact and Conclusions of Law by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 605 Motion re: defendants' equitable defenses. (Johnson, Kristine) Modified on 4/3/2012 (llj). (Entered: 04/02/2012)
04/02/2012	607	Declaration of Kristine E. Johnson filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 605, Motion re: defendants' equitable defenses (Attachments: #1 Exhibit 1 - Civil Docket, # 2 Exhibit 2 - Answer from prior suit, # 3 Exhibit 3 - Excerpts from trial testimony) (Johnson,

DATE	NO.	PROCEEDINGS
		Kristine) Modified on 4/3/2012 (llj). (Entered: 04/02/2012)
04/03/2012	608	** TEXT ONLY ORDER ** ORDER granting 592 Motion to Amend Briefing Schedule. All reply briefs due 5/14/2012. Signed by District Judge Barbara B. Crabb on 4/3/2012. (llj) (Entered: 04/03/2012)
04/03/2012	609	Declaration of Sarah E. Troupis filed by Plaintiff Promega Corporation re: 593 Bill of Costs, (Attachments: #1 Exhibit A-Fees for Service of Subpoena Costs, # 2 Exhibit B-Transcripts Part 1 of 3, # 3 Exhibit B-Transcripts Part 2 of 3, # 4 Exhibit B-Transcripts Part 3 of 3, # 5 Exhibit C-Copying Costs, # 6 Exhibit D-Fees of the Clerk) (Troupis, James) (Entered: 04/03/2012)
04/03/2012		Set/Reset Briefing Deadlines as to 605 Motion re: defendants' equitable defenses. Brief in Opposition due 4/19/2012. Brief in Reply due 5/14/2012. (llj) (Entered: 04/03/2012)
04/05/2012		Set/Reset Briefing Deadlines as to 594 Motion for Exceptional Case Finding. Briefing to follow schedule set for all motions: Response due 4/19/2012; Reply due 5/14/2012. (llj) (Entered: 04/05/2012)

DATE	NO.	PROCEEDINGS
04/05/2012		Set/Reset Briefing Deadlines as to 599 Motion for Enhanced Damages. Brief in Opposition due 4/19/2012. Brief in Reply due 5/14/2012. (llj) (Entered: 04/05/2012)
04/06/2012		Set/Reset Briefing Deadlines as to 601 MOTION FOR PERMANENT INJUNCTION. Brief in Opposition due 4/19/2012. Brief in Reply due 5/14/2012. (llj/BBC) (Entered: 04/06/2012)
04/09/2012	610	Motion for Extension of Time *for Opposition Memoranda* by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. Motions referred to Magistrate Judge Peter A. Oppeneer. Response due 4/16/2012. (Johnson, Kristine) (Entered: 04/09/2012)
04/10/2012	611	** TEXT ONLY ORDER ** ORDER granting 610 Motion for Extension of Time. No further extensions will be granted. Signed by District Judge Barbara B. Crabb on 4/10/2012. (llj) (Entered: 04/10/2012)
04/10/2012		Set/Reset Briefing Deadlines as to 601 MOTION FOR PERMANENT INJUNCTION, 594 Motion for Exceptional Case Finding, 599 Motion for Enhanced Damages.

DATE	NO.	PROCEEDINGS
		Brief in Opposition due 5/10/2012. Brief in Reply due 5/21/2012. (llj) (Entered: 04/10/2012)
04/12/2012	612	Objection to Bill of Costs by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 593 Bill of Costs filed by Promega Corporation (Attachments: # 1 Exhibit A - Chart of Specific Objections) (Modl, Michael) Modified on 4/13/2012 (llj). (Entered: 04/12/2012)
04/18/2012	613	Notice of Withdrawal of Counsel re: Defendant Life Technologies Corporation (*Amy Sun*) (Clarkowski, Andrew) (Entered: 04/18/2012)
04/18/2012	614	Motion to Admit Katherine M. Nolan-Stevaux Pro Hac Vice. (Pro Hac Vice fee $ 50 receipt number 0758-968729.) by Counter Claimants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation, Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. Motions referred to Magistrate Judge Peter A. Oppeneer. (Nolan-Stevaux, Katherine) (Entered: 04/18/2012)

DATE	NO.	PROCEEDINGS
04/19/2012	615	** TEXT ONLY ORDER ** ORDER granting 614 Motion to Admit Katherine Nolan-Stevaux Pro Hac Vice. Signed by Magistrate Judge Peter A. Oppeneer on 4/19/2012. (llj) (Entered: 04/19/2012)
04/19/2012	616	Brief in Opposition by Plaintiff Promega Corporation re: 580 Motion for Judgment as a Matter of Law *Regarding 35 USC 271(a) and (f)(1)*, filed by Applied Biosystems, LLC, Life Technologies Corporation, Invitrogen IP Holdings, Inc. (Troupis, Sarah) Modified on 4/20/2012 (llj). (Entered: 04/19/2012)
04/19/2012	617	Brief in Opposition by Plaintiff Promega Corporation re: 582 Motion for New Trial *Regarding Allocation of Burden* filed by Applied Biosystems, LLC, Life Technologies Corporation, Invitrogen IP Holdings, Inc. (Troupis, Sarah) Modified on 4/20/2012 (llj). (Entered: 04/19/2012)
04/19/2012	618	Brief in Opposition by Plaintiff Promega Corporation re: 584 Motion for New Trial *Based on Royalties Previously Paid* filed by Applied Biosystems, LLC, Life Technologies Corporation, Invitrogen IP Holdings, Inc. (Troupis, Sarah) Modified on 4/20/2012 (llj). (Entered: 04/19/2012)

DATE	NO.	PROCEEDINGS
04/19/2012	619	Brief in Opposition by Plaintiff Promega Corporation re: 586 Motion for New Trial *on Aggregate of Errors* filed by Applied Biosystems, LLC, Life Technologies Corporation, Invitrogen IP Holdings, Inc. (Troupis, Sarah) Modified on 4/20/2012 (llj). (Entered: 04/19/2012)
04/19/2012	620	Brief in Opposition by Plaintiff Promega Corporation re: 605 Motion *Regarding Defendants' Equitable Defenses* filed by Applied Biosystems, LLC, Life Technologies Corporation, Invitrogen IP Holdings, Inc. (Troupis, Sarah) Modified on 4/20/2012 (llj). (Entered: 04/19/2012)
04/19/2012	621	Response to Proposed Findings of Fact and Conclusions of Law by Plaintiff Promega Corporation re: 605 Motion *Regarding Defendants' Equitable Defenses* filed by Applied Biosystems, LLC, Life Technologies Corporation, Invitrogen IP Holdings, Inc. (Troupis, Sarah) Modified on 4/20/2012 (llj). (Entered: 04/19/2012)
04/19/2012	622	Brief in Opposition by Plaintiff Promega Corporation re: 578 Motion for Judgment as a Matter of Law *On Lost Profits Calculation*, filed by Applied Biosystems, LLC, Life Technologies Corporation,

DATE	NO.	PROCEEDINGS
		Invitrogen IP Holdings, Inc. (Troupis, Sarah) Modified on 4/20/2012 (llj). (Entered: 04/19/2012)
04/19/2012	623	Brief in Opposition by Plaintiff Promega Corporation re: 588 Motion for Judgment as a Matter of Law *on Non Willfulness*, filed by Applied Biosystems, LLC, Life Technologies Corporation, Invitrogen IP Holdings, Inc. (Troupis, Sarah) Modified on 4/20/2012 (llj). (Entered: 04/19/2012)
04/19/2012	624	Declaration of Brandon Lewis filed by Plaintiff Promega Corporation re: 588 Motion for Judgment as a Matter of Law, 586 Motion for New Trial, 578, Motion for Judgment as a Matter of Law, 580, Motion for Judgment as a Matter of Law, 582 Motion for New Trial, 584 Motion for New Trial (Attachments: # 1 Exhibit A - Defendant's Initial Rule 26 Disclosures, # 2 Exhibit B - Defendants' Supplemental Rule 26 Disclosures, # 3. Exhibit C - Select Plaintiff's Trial Exhibits) (Troupis, Sarah) (Entered: 04/19/2012)
04/23/2012	625	Brief in Support by Plaintiff Promega Corporation re: 593 Bill of Costs filed by Promega Corporation (Attachments: # 1 Exhibit A -

DATE	NO.	PROCEEDINGS
		Responses to Defendants' Specific Objections) (Troupis, Sarah) Modified on 4/25/2012 (llj). (Entered: 04/23/2012)
04/23/2012	626	Declaration of Sarah E. Troupis filed by Plaintiff Promega Corporation re: 593 Bill of Costs, (Troupis, Sarah) (Entered: 04/23/2012)
04/27/2012	627	Brief in Reply in Opposition to Bill of Costs by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 593 Bill of Costs filed by Promega Corporation (Attachments: # 1 Exhibit A - Spreadsheet Itemizing Objections) (Modl, Michael) Modified on 4/30/2012 (llj). (Entered: 04/27/2012)
05/10/2012	628	Brief in Opposition by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 594 Motion for Exceptional Case Finding filed by Promega Corporation, 599 Motion for Enhanced Damages filed by Promega Corporation (Sealed Document) (Johnson, Kristine) Modified on 5/11/2012 (llj). (Entered: 05/10/2012)
05/10/2012	629	Brief in Opposition by Defendants Applied Biosystems, LLC,

DATE	NO.	PROCEEDINGS
		Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction filed by Promega Corporation (Sealed Document) (Attachments: # 1 Exhibit 1- Proposed Form of Injunction) (Johnson, Kristine) (Entered: 05/10/2012)
05/10/2012	630	Response to Proposed Findings of Fact filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Sealed Document) (Johnson, Kristine) (Entered: 05/10/2012)
05/10/2012	631	Statement of Facts by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Sealed Document) (Johnson, Kristine) Modified on 5/11/2012 (llj). (Entered: 05/10/2012)
05/10/2012	632	Declaration of Kristine E. Johnson filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 594 Motion for Exceptional Case Finding, 599 Motion for Enhanced Damages, 601 Motion for Permanent Injunction (Sealed Document) (Attachments:

DATE	NO.	PROCEEDINGS
		#1 Exhibit A - Responses to Requests for Admission and Production, # 2 Exhibit B - Objections and Responses to Interrogatories, # 3 Exhibit C - Letter Johnson to Karge, # 4 Exhibit D - Letter Johnson to Karge, # 5 Exhibit E - Responses to Requests for Admission, # 6 Exhibit F - PTX0933, # 7 Exhibit G - Qiagen Website, # 8 Exhibit H - Biotype Website, # 9 Exhibit I- 1996 Agreement, # 10 Exhibit J - Promega Responses to Interrogatories, # 11 Exhibit K - Dimond Depo. Excerpts, # 12 Exhibit L - Promega letters) (Johnson, Kristine) Modified on 5/11/2012 (jaf). Modified on 5/11/2012 (llj). (Entered: 05/10/2012)
05/10/2012	633	Declaration of Thomas Mueller filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Sealed Document) (Johnson, Kristine) Modified on 5/11/2012 (llj). (Entered: 05/10/2012)
05/10/2012	634	Declaration of Margaret Wallace filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies

DATE	NO.	PROCEEDINGS
		Corporation re: 601 Motion for Permanent Injunction (Sealed Document) (Johnson, Kristine) Modified on 5/11/2012 (llj). (Entered: 05/10/2012)
05/10/2012	635	Declaration of Elaine Lyon filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Sealed Document) (Johnson, Kristine) (Entered: 05/10/2012)
05/10/2012	636	Declaration of Heather Miller Coyle filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Sealed Document) (Johnson, Kristine) Modified on 5/11/2012 (llj). (Entered: 05/10/2012)
05/10/2012	637	Declaration of Robin Cotton filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Sealed Document) (Johnson, Kristine) (Entered: 05/10/2012)
05/10/2012	638	Declaration of Leonard Klevan filed by Defendants Applied Biosystems,

DATE	NO.	PROCEEDINGS
		LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Sealed Document) (Johnson, Kristine) Modified on 5/11/2012 (llj). (Entered: 05/10/2012)
05/10/2012	639	Declaration of Arthur Eisenberg filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Sealed Document) (Johnson, Kristine) (Entered: 05/10/2012)
05/10/2012	640	Declaration of Tracey Dawson Cruz filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Sealed Document) (Johnson, Kristine) Modified on 5/11/2012 (llj). (Entered: 05/10/2012)
05/10/2012	641	Declaration of Anton Kovac filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Sealed Document) (Johnson, Kristine) (Entered: 05/10/2012)

DATE	NO.	PROCEEDINGS
05/10/2012	642	Declaration of Ain Langel filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Sealed Document) (Johnson, Kristine) Modified on 5/11/2012 (llj). (Entered: 05/10/2012)
05/10/2012	643	Declaration of Yasmin Verjee filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Sealed Document) (Johnson, Kristine) (Entered: 05/10/2012)
05/14/2012	644	Brief in Reply by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation in Support of 578 Motion for Judgment as a Matter of Law *on Lost Profits Calculation* (Johnson, Kristine) Modified on 5/15/2012 (llj). (Entered: 05/14/2012)
05/14/2012	645	Brief in Reply by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation in Support of 586, Motion for New Trial *Based on Aggregate of Errors* (Johnson, Kristine) (Entered: 05/14/2012)

DATE	NO.	PROCEEDINGS
05/14/2012	646	Brief in Reply by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation in Support of 582 Motion for New Trial *Regarding Quantum of Unauthorized Sales* (Johnson, Kristine) (Entered: 05/14/2012)
05/14/2012	647	Brief in Reply by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation in Support of 580 Motion for Judgment as a Matter of Law *Regarding 35 USC 271(f)(1) and (a)* (Johnson, Kristine) Modified on 5/15/2012 (llj). (Entered: 05/14/2012)
05/14/2012	648	Brief in Reply by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation in Support of 605 Motion for Miscellaneous Relief *on Equitable Defenses* (Johnson, Kristine) (Entered: 05/14/2012)
05/14/2012	649	Brief in Reply by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation in Support of 584 Motion for New Trial *Regarding Royalties Previously Paid* (Johnson, Kristine) (Entered: 05/14/2012)

DATE	NO.	PROCEEDINGS
05/14/2012	650	Brief in Reply by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation in Support of 588 Motion for Judgment as a Matter of Law *Regarding Non-Willfulness* (Sealed Document) (Johnson, Kristine) Modified on 5/15/2012 (llj). (Entered: 05/14/2012)
05/15/2012	651	Redacted Brief in Opposition by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 594 Motion for Exceptional Case Finding filed by Promega Corporation, 599 Motion for Enhanced Damages filed by Promega Corporation (Johnson, Kristine) Modified on 5/16/2012 (llj). (Entered: 05/15/2012)
05/15/2012	652	Redacted Brief in Opposition by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction filed by Promega Corporation (Johnson, Kristine) (Entered: 05/15/2012)
05/15/2012	653	Redacted Proposed Findings of Fact filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies

DATE	NO.	PROCEEDINGS
		Corporation re: 601 Motion for Permanent Injunction (Johnson, Kristine) (Entered: 05/15/2012)
05/15/2012	654	Redacted Brief in Reply by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation in Support of 588 Motion for Judgment as a Matter of Law, (Johnson, Kristine) (Entered: 05/15/2012)
05/15/2012	655	Redacted Declaration of A.E. filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Johnson, Kristine) (Entered: 05/15/2012)
05/15/2012	656	Redacted Declaration of T.D. filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Johnson, Kristine) (Entered: 05/15/2012)
05/15/2012	657	Redacted Declaration of T.M. filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Johnson, Kristine) (Entered: 05/15/2012)

DATE	NO.	PROCEEDINGS
05/15/2012	658	Redacted Declaration of M.W. filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Johnson, Kristine) (Entered: 05/15/2012)
05/15/2012	659	Redacted Declaration of R.C. filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Johnson, Kristine) (Entered: 05/15/2012)
05/15/2012	660	Redacted Declaration of A.L. filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Johnson, Kristine) (Entered: 05/15/2012)
05/15/2012	661	Redacted Declaration of E.L. filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Johnson, Kristine) (Entered: 05/15/2012)
05/15/2012	662	Redacted Declaration of H.C. filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re:

DATE	NO.	PROCEEDINGS
		601 Motion for Permanent Injunction (Johnson, Kristine) (Entered: 05/15/2012)
05/15/2012	663	Redacted Declaration of A.K. filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Johnson, Kristine) (Entered: 05/15/2012)
05/15/2012	664	Redacted Declaration of Y.J. filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 601 Motion for Permanent Injunction (Johnson, Kristine) (Entered: 05/15/2012)
05/21/2012	665	MANDATE issued by Federal Circuit affirming district court as to 147 Notice of Appeal, filed by Promega Corporation. No record to be returned. (Attachments: # 1 Bill of Costs) (llj) (Entered: 05/21/2012)
05/21/2012	666	Brief in Reply by Plaintiff Promega Corporation in Support of 594 Motion for Exceptional Case Finding. (Troupis, Sarah) Modified on 5/22/2012 (llj). (Entered: 05/21/2012)
05/21/2012	667	Second Declaration of James R. Troupis filed by Plaintiff Promega Corporation re: 594 Motion for

DATE	NO.	PROCEEDINGS
		Exceptional Case Finding (Sealed Document) (Attachments: # 1 Exhibit A - Overall Fee Breakdown, # 2 Exhibit B - Attorney Fee Breakdown, # 3 Exhibit C - Disbursement Breakdown, # 4 Exhibit D - Other Fee Breakdown, # 5 Exhibit E - Troupis Law Office Invoices, # 6 Exhibit F - Husmann Invoice, # 7 Exhibit G - Misc. Invoices) (Troupis, Sarah) Modified on 5/22/2012 (llj). (Entered: 05/21/2012)
05/21/2012	668	Redacted 667 Second Declaration of James R. Troupis filed by Plaintiff Promega Corporation re: 594 Motion for Exceptional Case Finding (Attachments: # 1 Exhibit A - Overall Fee Breakdown, # 2 Exhibit B - Attorney Fee Breakdown, # 3 Exhibit C - Disbursement Breakdown, # 4 Exhibit D - Other Fee Breakdown, # 5 Exhibit E - Troupis Law Office Invoices, # 6 Exhibit F - Husmann Invoice, # 7 Exhibit G - Misc. Invoices) (Troupis, Sarah) Modified on 5/22/2012 (llj). Modified on 6/21/2012 (llj). (Entered: 05/21/2012)
05/21/2012	669	Brief in Reply by Plaintiff Promega Corporation in Support of 599 Motion for Enhanced Damages

DATE	NO.	PROCEEDINGS
		(Troupis, Sarah) (Entered: 05/21/2012)
05/21/2012	670	Brief in Reply by Plaintiff Promega Corporation in Support of 601 Motion for Permanent Injunction (Sealed Document) (Troupis, Sarah) (Entered: 05/21/2012)
05/21/2012	671	Response to Defendants' Proposed Findings of Fact filed by Plaintiff Promega Corporation re: 601 Motion for Permanent Injunction (Sealed Document) (Troupis, Sarah) Modified on 5/22/2012 (llj). (Entered: 05/21/2012)
05/21/2012	672	Reply in Support of Proposed Findings of Fact filed by Plaintiff Promega Corporation re: 601 Motion for Permanent Injunction (Sealed Document) (Troupis, Sarah) (Entered: 05/21/2012)
05/21/2012	673	Declaration of Brandon Lewis filed by Plaintiff Promega Corporation re: 594 Motion for Exceptional Case Finding, 599 Motion for Enhanced Damages, 601 Motion for Permanent Injunction (Sealed Document) (Attachments: # 1 Exhibit A - Select Plaintiff's Trial Exhibits, # 2 Exhibit B - May 13, 2012 Screenshot, # 3 Exhibit C - Doug Storts Email, # 4 Exhibit D - FBI Quality Assurance Standards,

DATE	NO.	PROCEEDINGS
		# 5 Exhibit E - AB Autosomal Locus Guide, # 6 Exhibit F - Chart of Promega PowerPlex STR Systems, # 7 Exhibit G - FEPAC Accredidation Standards, # 8 Exhibit H - 7/20/2011 Email, # 9 Exhibit I - Defendants' Objections to Rule 30(b)(6) Notice) (Troupis, Sarah) Modified on 5/22/2012 (llj). (Entered: 05/21/2012)
05/21/2012	674	Declaration of Jack Ballantyne filed by Plaintiff Promega Corporation re: 601 Motion for Permanent Injunction (Troupis, Sarah) Unsealed per dkt. 779 on 7/11/2013 (rep). (Entered: 05/21/2012)
05/21/2012	675	Declaration of Margaret Ewing filed by Plaintiff Promega Corporation re: 601 Motion for Permanent Injunction (Troupis, Sarah) Unsealed per dkt. 779 on 7/11/2013 (rep). (Entered: 05/21/2012)
05/21/2012	676	Declaration of Kathleen Murphy filed by Plaintiff Promega Corporation re: 601 Motion for Permanent Injunction (Troupis, Sarah) Unsealed per dkt. 779 on 7/11/2013 (rep). (Entered: 05/21/2012)

DATE	NO.	PROCEEDINGS
05/21/2012	677	Declaration of Randall Dimond filed by Plaintiff Promega Corporation re: 601 Motion for Permanent Injunction (Sealed Document) (Troupis, Sarah) (Entered: 05/21/2012)
05/24/2012	678	Redacted 670 Brief in Reply in Support of 601 Motion for Permanent Injunction by Plaintiff Promega Corporation (Troupis, Sarah) Modified on 6/21/2012 (llj). (Entered: 05/24/2012)
05/24/2012	679	Redacted 671 Response to Defendants' Proposed Findings of Fact re: 601 Motion for Permanent Injunction by Plaintiff Promega Corporation (Troupis, Sarah) Modified on 6/21/2012 (llj). (Entered: 05/24/2012)
05/24/2012	680	Redacted 673 Declaration of Brandon M. Lewis re: 594 Motion for Exceptional Case Finding, 599 Motion for Enhanced Damages, 601 Motion for Permanent Injunction by Plaintiff Promega Corporation (Attachments: # 1 Exhibit A - Select Plaintiff's Trial Exhibits, # 2 Exhibit B - May 13, 2012 Screenshot, # 3 Exhibit C - Doug Storts Email, # 4 Exhibit D - FBI Quality Assurance Standards, # 5 Exhibit E - AB Autosomal Locus Guide, # 6 Exhibit F - Chart of

DATE	NO.	PROCEEDINGS
		Promega PowerPlex STR Systems, # 7 Exhibit G - FEPAC Accredidation Standards, # 8 Exhibit H - 7/20/2011 Email, # 9 Exhibit I - Defendants' Objections to Rule 30(b)(6) Notice) (Troupis, Sarah) Modified on 6/21/2012 (llj). (Entered: 05/24/2012)
06/08/2012	681	Notice of Supplemental Authority by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 593 Bill of Costs. (Attachments: # 1 Exhibit A - Opinion in Taniguchi v. Kan Pacific Saipan, Ltd.) (Modl, Michael) Modified on 6/11/2012 (jaf). Modified on 6/12/2012 (llj). (Entered: 06/08/2012)
06/18/2012	682	Notice of Supplemental Authority by Plaintiff Promega Corporation. (Attachments: # 1 Exhibit A - Cited Case - Bard v. W.L. Gore) (Troupis, Sarah) Modified on 6/19/2012 (jaf). (Entered: 06/18/2012)
06/20/2012	683	Clarification re: 682 Notice of Supplemental Authority by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. (Johnson, Kristine) Modified on 6/21/2012 (jaf). (Entered: 06/20/2012)

DATE	NO.	PROCEEDINGS
09/13/2012	684	ORDER ruling on pending post trial motions; dismissing the equitable defenses and counterclaims filed by defendants for failure to prove; granting 580 defendants' motion for judgment as a matter of law; denying as moot the remaining motions, including 593 plaintiff's bill of costs. Signed by District Judge Barbara B. Crabb on 9/12/2012. (llj) (Entered: 09/13/2012)
09/18/2012	685	AMENDED JUDGMENT entered. (BBC/PAO) Signed by Clerk of Court Peter Oppeneer on 9/18/2012. (llj) (Entered: 09/18/2012)
09/27/2012	686	NOTICE OF APPEAL - FEDERAL CIRCUIT by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. Filing fee of $ 455, receipt number 0758-1055811 paid. (Modl, Michael) (Entered: 09/27/2012)
09/28/2012	687	Transmission of Notice of Appeal, Appeal Information Sheet, Docket Sheet and Judgment to Federal Circuit Court of Appeals re 686 Notice of Appeal (Attachments: # 1 Info Sheet, # 2 Judgment, # 3 #345 Order, # 4 #486 Order, # 5 #498 Order, # 6 #517 Oral order in

DATE	NO.	PROCEEDINGS
		transcipt [sic], # 7 Docket sheet) (mmo) (Entered: 09/28/2012)
10/09/2012	688	Transcript Request Form by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation (Johnson, Kristine) Modified on 10/10/2012; signed by crt. reporter and forwarded to Fed. Cir. (mmo). (Entered: 10/09/2012)
10/15/2012	689	Federal Circuit Case Number 2013-1011 for 686 Notice of Appeal filed by Applied Biosystems, LLC, Life Technologies Corporation, Invitrogen IP Holdings, Inc. (llj) (Entered: 10/15/2012)
10/15/2012	690	Motion to Set Aside Judgment *with Respect to Infringement, Permanent Injunction, and Exceptional Case Finding or, in the Alternative, for a New Trial* by Plaintiff Promega Corporation. (Troupis, Sarah) Modified on 10/17/2012 (llj). (Entered: 10/15/2012)
10/15/2012	691	Brief in Support of 690 Motion to Set Aside Judgment *with Respect to Infringement, Permanent Injunction, and Exceptional Case Finding or, in the Alternative, for a New Trial* by Plaintiff Promega Corporation (Sealed Document) (Troupis, Sarah)

DATE	NO.	PROCEEDINGS
		Modified on 10/17/2012 (llj). (Entered: 10/15/2012)
10/15/2012	692	Redacted Brief in Support of 690 Motion to Set Aside Judgment *with Respect to Infringement, Permanent Injunction, and Exceptional Case Finding or, in the Alternative, for a New Trial* by Plaintiff Promega Corporation (Troupis, Sarah) Modified on 10/17/2012 (llj). (Entered: 10/15/2012)
10/15/2012	693	Motion to Set Aside Judgment *with Respect to Damages or, in the Alternative, for a New Trial* by Plaintiff Promega Corporation. (Troupis, Sarah) Modified on 10/17/2012 (llj). (Entered: 10/15/2012)
10/15/2012	694	Brief in Support of 693 Motion to Set Aside Judgment *with Respect to Damages or, in the Alternative, for a New Trial* by Plaintiff Promega Corporation (Sealed Document) (Troupis, Sarah) Modified on 10/17/2012 (llj). (Entered: 10/15/2012)
10/15/2012	695	Redacted Brief in Support of 693 Motion to Set Aside Judgment *with Respect to Damages or, in the Alternative, for a New Trial* by Plaintiff Promega Corporation (Troupis, Sarah) Modified on

DATE	NO.	PROCEEDINGS
		10/17/2012 (llj). (Entered: 10/15/2012)
10/15/2012	696	Disregard; refiled as entry 702. Declaration of Brandon Lewis filed by Plaintiff Promega Corporation. (Attachments: # 1 Exhibit A - Select Trial Exhibits) (Troupis, Sarah) Requested attorney refile with exhibits attached and described separately on 10/16/2012 (jaf). Modified on 10/17/2012 (llj). (Entered: 10/15/2012)
10/15/2012	697	Motion for Oral Argument re: 690 and 693 Motions to Set Aside Judgment by Plaintiff Promega Corporation. (Troupis, Sarah) Modified on 10/16/2012 (jaf). Modified event relationship and deleted response deadline on 10/17/2012 (llj). (Entered: 10/15/2012)
10/15/2012	698	Motion to Correct a Typographical Error re 684 Order, by Plaintiff Promega Corporation. (Troupis, Sarah) Modified on 10/16/2012 (jaf). Modified entry and deleted response deadline on 10/17/2012 (llj). (Entered: 10/15/2012)
10/16/2012	699	Motion to Admit Seth P. Waxman Pro Hac Vice (Pro Hac Vice fee $50 receipt number 0758-1067379) by Plaintiff Promega Corporation.

DATE	NO.	PROCEEDINGS
		Motions referred to Magistrate Judge Peter A. Oppeneer. (Waxman, Seth) Modified on 10/17/2012 (llj). (Entered: 10/16/2012)
10/16/2012	700	Motion to Admit Mark C. Fleming Pro Hac Vice (Pro Hac Vice fee $50 receipt number 0758-1067380) by Plaintiff Promega Corporation. Motions referred to Magistrate Judge Peter A. Oppeneer. (Fleming, Mark) Modified on 10/17/2012 (llj). (Entered: 10/16/2012)
10/16/2012	701	Motion to Admit Thomas G. Saunders Pro Hac Vice (Pro Hac Vice fee $50 receipt number 0758-1067381) by Plaintiff Promega Corporation. Motions referred to Magistrate Judge Peter A. Oppeneer. (Saunders, Thomas) Modified on 10/17/2012 (llj). (Entered: 10/16/2012)
10/16/2012	702	Declaration of Brandon Lewis filed by Plaintiff Promega Corporation re: 693 Motion to Set Aside Judgment re: Damages, 690 Motion to Set Aside Judgment, (Sealed Document) (Attachments: # 1 Exhibit A - Email from Dave Oehler to Robert Rossi on 07/13/2010 - re: A: Quote request for Identifiler Plus at 30% off list TRIAL QUOTE, # 2 Exhibit B - List of Account Chart for

DATE	NO.	PROCEEDINGS
		Years 2002-2007, # 3 Exhibit C - List of Account Chart for Years 2006-2008, # 4 Exhibit D - Spreadsheet for Fiscal Year 2000-2009, # 5 Exhibit E - Spreadsheet, Non-Forensic Accounts, # 6 Exhibit F - Summary Royalty Report for Promega Corporation for Quarter Ending 09/30/06, # 7 Exhibit G - Summary Royalty Report for Promega Corporation for Quarter Ending 12/31/06, # 8 Exhibit H - Summary Royalty Report for Promega Corporation for Quarter Ending 03/31/07, # 9 Exhibit I - Summary Royalty Report for Promega Corporation for Quarter Ending 06/30/07, # 10 Exhibit J - Summary Royalty Report for Promega Corporation for Quarter Ending 09/30/07, # 11 Exhibit K - Summary Royalty Report for Promega Corporation for Quarter Ending 12/31/07, # 12 Exhibit L - Summary Royalty Report for Promega Corporation for Quarter Ending 03/31/08, # 13 Exhibit M - Summary Royalty Report for Promega Corporation for Quarter Ending 12/31/07, # 14 Exhibit N - Summary Royalty Report for Promega Corporation for Quarter Ending 12/31/08, # 15 Exhibit O - Summary Royalty Report for

DATE	NO.	PROCEEDINGS
		Promega Corporation for Quarter Ending 03/31/09, # 16 Exhibit P - Summary Royalty Report for Promega Corporation for Quarter Ending 06/30/09, #17 Exhibit Q - Summary Royalty Report for Promega Corporation for Quarter Ending 09/30/09, # 18 Exhibit R - Summary Royalty Report for Promega Corporation for Quarter Ending 06/30/10, # 19 Exhibit S - Summary Royalty Report for Promega Corporation for Quarter Ending 12/31/09, # 20 Exhibit T - Summary Royalty Report for Promega Corporation for Quarter Ending 12/31/10, # 21 Exhibit U - Summary Royalty Report for Promega Corporation for Quarter Ending 03/31/11, # 22 Exhibit V - Summary Royalty Report for Promega Corporation for Quarter Ending 06/30/11, # 23 Exhibit W - Placeholder for Spreadsheet produced by Defendants titled LIFE-0591808.xls) (Lewis, Brandon) Modified on 10/17/2012 (llj). (Entered: 10/16/2012)
10/16/2012	703	NOTICE OF APPEAL - FEDERAL CIRCUIT by Plaintiff Promega Corporation as to 684 Order on Motion for Judgment as a Matter of Law, Order on Motion for New Trial, Order Taxing Costs, Order on

DATE	NO.	PROCEEDINGS
		Motion for Miscellaneous Relief, Order on Motion for Enhanced Damages, Order on Motion for Permanent Injunction, 498 Order on Motion in Limine, Order on Motion to Strike, Order on Motion for Leave to File, 685 Judgment. Filing fee of $455, receipt number 0758-1068184 paid. (Troupis, Sarah) Modified on 10/17/2012 (llj). (Entered: 10/16/2012)
10/17/2012		Set/Reset Briefing Deadlines as to 690 Motion to Set Aside Judgment, 693 Motion to Set Aside Judgment re: Damages. Brief in Opposition due 11/6/2012. Brief in Reply due 11/21/2012. (llj) (Entered: 10/17/2012)
10/17/2012	704	** TEXT ONLY ORDER ** ORDER granting 699 , 700 and 701 Motions to Admit Pro Hac Vice. Signed by Magistrate Judge Peter A. Oppeneer on 10/17/2012. (llj) (Entered: 10/17/2012)
10/17/2012	705	Transmission of Notice of Appeal, Appeal Information Sheet, Docket Sheet and Judgment to Federal Circuit Court of Appeals re 703 Notice of Appeal, (Attachments: # 1 Info sheet, # 2 Order, # 3 Order, # 4 Amended judgmt, # 5 Docket sheet) (mmo) (Entered: 10/17/2012)

DATE	NO.	PROCEEDINGS
10/18/2012	706	Motion to Admit Edward Robert Reines Pro Hac Vice (Pro Hac Vice fee $50 receipt number 0758-1069740) by Counter Claimants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation, Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. Motions referred to Magistrate Judge Peter A. Oppeneer. (Reines, Edward) Modified on 10/19/2012 (llj). (Entered: 10/18/2012)
10/18/2012	707	Motion to Admit Timothy Chen Saulsbury Pro Hac Vice (Pro Hac Vice fee $50 receipt number 0758-1069745) by Counter Claimants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation, Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. Motions referred to Magistrate Judge Peter A. Oppeneer. (Saulsbury, Timothy) Modified on 10/19/2012 (llj). (Entered: 10/18/2012)
10/19/2012	708	** TEXT ONLY ORDER ** ORDER granting 706 and 707 Motions to Admit Edward Robert Reines and Timothy Chen Saulsbury Pro Hac Vice. Signed by Magistrate Judge

DATE	NO.	PROCEEDINGS
		Peter A. Oppeneer on 10/19/2012. (llj) (Entered: 10/19/2012)
10/23/2012	709	** TEXT ONLY ORDER ** The court will make a decision re: 697 Motion for Oral Argument when briefing on the related motions is complete. Signed by District Judge Barbara B. Crabb on 10/23/2012. (llj) (Entered: 10/23/2012)
10/23/2012	710	** TEXT ONLY ORDER ** ORDER granting 698 Motion to Amend/Correct. Order 684 entered September 13, 2012, is AMENDED by transposing the terms "defendants" and "plaintiff' in the last sentence of the first full paragraph on page 9. In all other respects, the order remains as entered. Signed by District Judge Barbara B. Crabb on 10/23/2012. (llj) (Entered: 10/23/2012)
10/25/2012	711	Unopposed Motion for Extension of Time re: 690 Motion and 693 Motion by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. Motions referred to Magistrate Judge Peter A. Oppeneer. (Johnson, Kristine) Modified on 10/31/2012 (llj). (Entered: 10/25/2012)

DATE	NO.	PROCEEDINGS
10/29/2012	712	** TEXT ONLY ORDER ** ORDER granting 711 Motion for Extension of Time. Brief in Opposition due 11/27/2012. Brief in Reply due 12/12/2012. Signed by Magistrate Judge Peter A. Oppeneer on 10/29/2012. (voc) (Entered: 10/29/2012)
11/14/2012	713	ORDER from Federal Circuit deactivating appeals as to 703 Notice of Appeal (13-1029) filed by Promega Corporation, 686 Notice of Appeal (13-1011) filed by Applied Biosystems, LLC, Life Technologies Corporation, Invitrogen IP Holdings, Inc., pending entry of an order by the District Court on the outstanding post-judgment motions, (Attachments: # 1 Notice) (llj) (Entered: 11/14/2012)
11/26/2012	714	Motion to Admit Carter Glasgow Phillips Pro Hac Vice (Pro Hac Vice fee $50 receipt number 0758-1087726) by Defendants Applied Biosystems, LLC, Life Technologies Corporation, Counter Claimant Invitrogen IP Holdings, Inc. Motions referred to Magistrate Judge Peter A. Oppeneer. (Phillips, Carter) Modified on 11/27/2012 (llj). (Entered: 11/26/2012)
11/27/2012	715	** TEXT ONLY ORDER ** ORDER granting 714 Motion to Admit

DATE	NO.	PROCEEDINGS
		Carter Glasgow Phillips Pro Hac Vice. Signed by Magistrate Judge Peter A. Oppeneer on 11/27/2012. (llj) (Entered: 11/27/2012)
11/27/2012	716	Brief in Opposition by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 690 Motion to Set Aside Judgment (Infringement, Permanent Injunction, Exceptional Case) filed by Promega Corporation. (Reines, Edward) Modified on 11/28/2012 (llj). (Entered: 11/27/2012)
11/27/2012	717	Brief in Opposition by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 693 Motion to Set Aside Judgment (Damages) filed by Promega Corporation. (Reines, Edward) Modified on 11/28/2012 (llj). (Entered: 11/27/2012)
12/06/2012	718	Motion for Extension of Time *To File Post-Judgment Reply Briefs* by Plaintiff Promega Corporation. Motions referred to Magistrate Judge Peter A. Oppeneer. (Saunders, Thomas) (Entered: 12/06/2012)
12/06/2012	719	** TEXT ONLY ORDER ** ORDER granting 718 Motion for Extension

DATE	NO.	PROCEEDINGS
		of Time. Brief in Reply due 12/19/2012. Signed by Magistrate Judge Peter A. Oppeneer on 12/6/12. (rep) (Entered: 12/06/2012)
12/14/2012	720	Motion to Admit Susan Rebecca Podolsky Pro Hac Vice (Pro Hac Vice fee $50 receipt number 0758-1097842) by Counter Defendant Promega Corporation. Motions referred to Magistrate Judge Peter A. Oppeneer. (Podolsky, Susan) Modified on 12/17/2012 (llj). (Entered: 12/14/2012)
12/17/2012	721	Motion to Withdraw as Attorney for Plaintiff Promega Corporation. Response due 12/24/2012. (Troupis, James) Modified on 12/18/2012 (llj). (Entered: 12/17/2012)
12/17/2012	722	** TEXT ONLY ORDER ** ORDER granting 720, Motion to Admit Susan Rebecca Podolsky Pro Hac Vice. Signed by Magistrate Judge Peter A. Oppeneer on 12/17/2012. (llj) (Entered: 12/17/2012)
12/17/2012	723	** TEXT ONLY ORDER ** ORDER approving 721 Motion to Withdraw as Attorney by James R. Troupis. Signed by Magistrate Judge Peter A. Oppeneer on 12/17/2012. (llj) (Entered: 12/17/2012)
12/19/2012	724	Notice of Change of Address for Peter G. Carroll. (Lewis, Brandon)

DATE	NO.	PROCEEDINGS
		Modified on 12/27/2012 (llj). (Entered: 12/19/2012)
12/19/2012	725	Brief in Reply by Plaintiff Promega Corporation in Support of 690 Motion to Set Aside Judgment *with Respect to Infringement* (Sealed Document) (Waxman, Seth) (Entered: 12/19/2012)
12/19/2012	726	Brief in Reply by Plaintiff Promega Corporation in Support of 693 Motion to Set Aside Judgment *with Respect to Damages* (Sealed Document) (Waxman, Seth) (Entered: 12/19/2012)
12/19/2012	727	Motion for Relief from Judgment *Based on Newly Discovered Evidence and for a New Trial* by Plaintiff Promega Corporation. (Waxman, Seth) (Entered: 12/19/2012)
12/19/2012	728	Brief in Support of 727 Motion for Relief from Judgment *Based on Newly Discovered Evidence and for a New Trial* by Plaintiff Promega Corporation (Sealed Document) (Waxman, Seth) (Entered: 12/19/2012)
12/19/2012	729	Declaration of Stewart W. Karge filed by Plaintiff Promega Corporation re: 727 Motion for Relief from Judgment (Sealed Document) (Attachments: # 1 Exhibit A - LT

DATE	NO.	PROCEEDINGS
		Resp. to Promega 2d RFP, # 2 Exhibit B - LT Resp. to Promega 3d RFP, # 3 Exhibit C - October 17, 2011 Letter, # 4 Exhibit D - October 18, 2011 Letter, # 5 Exhibit E - October 19, 2011 Letter, # 6 Exhibit F-1 - Promega 2d Doc Requests to IIPH (ARB), # 7 Exhibit F-2 - IIPH Resp. to Promega 2d RFP (ARB), # 8 Exhibit G-1 - 2006 BOD Spreadsheet, # 9 Exhibit G-2 - 2007 BOD Spreadsheet, # 10 Exhibit G-3 - 2008 BOD Spreadsheet, # 11 Exhibit G-4 - 2009 BOD Spreadsheet, # 12 Exhibit G-5 - 2010 BOD Spreadsheet, # 13 Exhibit G-6 - 2011 BOD Spreadsheet, # 14 Exhibit G-7 - 2012 BOD Spreadsheet) (Waxman, Seth) (Entered: 12/19/2012)
12/19/2012	730	Declaration of Stewart W. Karge filed by Plaintiff Promega Corporation (*Exhibits H to L*) re: 727 Motion for Relief from Judgment (Sealed Document) (Attachments: # 1 Exhibit H - Goebel Dep. - See also 745, # 2 Exhibit I - Edquist Dep. - See also 746 , # 3 Exhibit J - LIFE- 0588878-588902, # 4 Exhibit K - LIFE-0586417, # 5 Exhibit L - IVGN008752_4305979_20070716) (Waxman, Seth) Modified on 1/8/2013 (jaf). (Entered: 12/19/2012)

DATE	NO.	PROCEEDINGS
12/19/2012	731	Declaration of Stewart W. Karge filed by Plaintiff Promega Corporation (*Exhibits M-01 to M-40*) re: 727 Motion for Relief from Judgment (Sealed Document) (Attachments: # 1 Exhibit M-01 - IVGN008696_403038_20060713, # 2 Exhibit M-02 - IVGN008697_403038_20061219, # 3 Exhibit M-03 - IVGN008698_403038_20061230, # 4 Exhibit M-04 - IVGN008699_403038_20070716, # 5 Exhibit M-05 - IVGN008700_403038_20071231, # 6 Exhibit M-06 - IVGN008701_403038_20080716, # 7 Exhibit M-07 - IVGN008702_403038_20091217, # 8 Exhibit M-08 - IVGN008703_403038_20101210, # 9 Exhibit M-09 - IVGN008704_403038_20111208, # 10 Exhibit M-10 - IVGN008705_403038_20120124, # 11 Exhibit M-11 - IVGN008723_4305246_20060713, # 12 Exhibit M-12 - IVGN008724_4305246_20061219, # 13 Exhibit M-13 - IVGN008725_4305246_20061230, # 14 Exhibit M-14 - IVGN008726_4305246_20070716, # 15 Exhibit M-15 - IVGN008727_4305246_20071231, # 16 Exhibit M-16 - IVGN008728_4305246_20080716, #17 Exhibit M-17 - IVGN008729_4305246_20091217, # 18 Exhibit M-18 - IVGN008730_

DATE	NO.	PROCEEDINGS
		4305246_20101210, # 19 Exhibit M-19 - IVGN008731_4305246_20111208, # 20 Exhibit M-20 - IVGN008732_4305246_20120124, # 21 Exhibit M-21 - IVGN008773_4307133_20060713, # 22 Exhibit M-22 - IVGN008774_4307133_20061219, # 23 Exhibit M-23 - IVGN008775_4307133_20061230, # 24 Exhibit M-24 - IVGN008776_4307133_20070716, # 25 Exhibit M-25 - IVGN008777_4307133_2007123, # 26 Exhibit M-26 - IVGN008778_4307133_20080716, # 27 Exhibit M-27 - IVGN008779_4307133_20091217, # 28 Exhibit M-28 - IVGN008780_4307133_20101210, # 29 Exhibit M-29 - IVGN008781_4307133_20111208, # 30 Exhibit M-30 - IVGN008782_4307133_20120124, # 31 Exhibit M-31 - IVGN008786_4322288_20060713, # 32 Exhibit M-32 - IVGN008787_4322288_20060815, # 33 Exhibit M-33 - IVGN008788_4322288_20061219, # 34 Exhibit M-34 - IVGN008789_4322288_20061230, # 35 Exhibit M-35 - IVGN008790_4322288_20070531, # 36 Exhibit M-36 - IVGN008791_4322288_20070716, # 37 Exhibit M-37 - IVGN008792_4322288_20071231, # 38 Exhibit M-38 - IVGN008793_4322288_20080716,

DATE	NO.	PROCEEDINGS
		# 39 Exhibit M-39 - IVGN008794_4322288_20091217, # 40 Exhibit M-40 - IVGN008795_4322288_20101210) (Waxman, Seth) (Entered: 12/19/2012)
12/19/2012	732	Declaration of Stewart W. Karge filed by Plaintiff Promega Corporation (*Exhibits M-41 to M-80*) re: 727 Motion for Relief from Judgment (Sealed Document) (Attachments: # 1 Exhibit M-41 - IVGN008796_4322288_20111208, # 2 Exhibit M-42 - IVGN008797_4322288_20120124, # 3 Exhibit M-43 - IVGN008856_4335129_20060721, # 4 Exhibit M-44 - IVGN008857_4335129_20061219, # 5 Exhibit M-45 - IVGN008858_4335129_20061230, # 6 Exhibit M-46 - IVGN008859_4335129_20070716, # 7 Exhibit M-47 - IVGN008860_4335129_20071231, # 8 Exhibit M-48 - IVGN008861_4335129_20080716, # 9 Exhibit M-49 - IVGN008862_4335129_20091217, # 10 Exhibit M-50 - IVGN008863_4335129_20101210, # 11 Exhibit M-51 - IVGN008864_4335129_20111208, # 12 Exhibit M-52 - IVGN008865_4335129_20120124, # 13 Exhibit M-53 - IVGN008867_4359513_20060714, # 14 Exhibit M-54 - IVGN008868_4359513_20061117, #15 Exhibit M-

DATE	NO.	PROCEEDINGS
		55 - IVGN008869_4359513_20061219, #16 Exhibit M-56 - IVGN008870_4359513_20061230, # 17 Exhibit M-57 - IVGN008871_4359513_20070221, #18 Exhibit M-58 - IVGN008872_4359513_20070525, #19 Exhibit M-59 - IVGN008873_4359513_20070716, # 20 Exhibit M-60 - IVGN008874_4359513_20071231, # 21 Exhibit M-61 - IVGN008875_4359513_20080716, # 22 Exhibit M-62 - IVGN008876_4359513_20091217, # 23 Exhibit M-63 - IVGN008877_4359513_20101210, # 24 Exhibit M-64 - IVGN008878_4359513_20111208, # 25 Exhibit M-65 - IVGN008879_4359513_20120124, # 26 Exhibit M-66 - IVGN008881_4373872_20060803, # 27 Exhibit M-67 - IVGN008882_4373872_20061219, # 28 Exhibit M-68 - IVGN008883_4373872_20061230, # 29 Exhibit M-69 - IVGN008884_4373872_20070221, # 30 Exhibit M-70 - IVGN008885_4373872_20070716, # 31 Exhibit M-71 - IVGN008886_4373872_20071231, # 32 Exhibit M-72 - IVGN008887_4373872_20080716, # 33 Exhibit M-73 - IVGN008888_4373872_20091217,# 34 Exhibit M-74 - IVGN008889_4373872_20101210, # 35 Exhibit M-75 - IVGN008890_

DATE	NO.	PROCEEDINGS
		4373872_20111208, # 36 Exhibit M-76 - IVGN008891_4373872_20120124, # 37 Exhibit M-77 - IVGN008940_4457889_20101001, # 38 Exhibit M-78 - IVGN008941_4457889_20101210, # 39 Exhibit M-79 - IVGN008942_4457889_20111208, # 40 Exhibit M-80 - IVGN008943_4457889_20120124) (Waxman, Seth) (Entered: 12/19/2012)
12/19/2012	733	Declaration of Brandon M. Lewis filed by Plaintiff Promega Corporation re: 727 Motion for Relief from Judgment (Sealed Document) (Attachments: #1 Exhibit A - May 4, 2010 Letter, # 2 Exhibit B - PTX884, # 3 Exhibit C - PTX885, # 4 Exhibit D-1 - Promega 1st RFAs and RFPs, # 5 Exhibit D-2 - LT Resp. to Promega 1st RFAs and RFPs) (Waxman, Seth) (Entered: 12/19/2012)
12/20/2012	734	Declaration of Thomas C. Howerton filed by Plaintiff Promega Corporation re: 727 Motion for Relief from Judgment (Sealed Document) (Attachments: # 1 Exhibit 1 - Component Charts) (Waxman, Seth) (Entered: 12/20/2012)
12/20/2012	735	Redacted Brief in Reply by Plaintiff Promega Corporation in Support of 690 Motion to Set Aside Judgment

DATE	NO.	PROCEEDINGS
		with Respect to Infringement (Waxman, Seth) (Entered: 12/20/2012)
12/20/2012	736	Redacted Brief in Reply by Plaintiff Promega Corporation in Support of 693 Motion to Set Aside Judgment *with Respect to Damages* (Waxman, Seth) (Entered: 12/20/2012)
12/20/2012	737	Redacted Brief in Support of 727 Motion for Relief from Judgment *Based on Newly Discovered Evidence and for a New Trial* by Plaintiff Promega Corporation (Waxman, Seth) (Entered: 12/20/2012)
12/20/2012	738	Redacted Declaration of Stewart W. Karge filed by Plaintiff Promega Corporation re: 727 Motion for Relief from Judgment (Attachments: #1 Exhibit A - LT Resp. to Promega 2d RFP, # 2 Exhibit B - LT Resp. to Promega 3d RFP, # 3 Exhibit C - October 17, 2011 Letter, # 4 Exhibit D - October 18, 2011 Letter, # 5 Exhibit E - October 19, 2011 Letter, # 6 Exhibit F-1 - Promega 2d Doc Requests to IIPH (ARB), # 7 Exhibit F-2 - IIPH Resp. to Promega 2d RFP (ARB), # 8 Exhibit G-M - Redacted) (Waxman, Seth) (Entered: 12/20/2012)
12/20/2012	739	Redacted Declaration of Brandon

DATE	NO.	PROCEEDINGS
		M. Lewis filed by Plaintiff Promega Corporation re: 727 Motion for Relief from Judgment (Attachments: # 1 Exhibit A - May 4, 2010 Letter, # 2 Exhibit B-C - Redacted, # 3 Exhibit D-1 - Promega 1st RFAs and RFPs, # 4 Exhibit D-2 - LT Resp. to Promega 1st RFAs and RFPs) (Waxman, Seth) (Entered: 12/20/2012)
12/20/2012	740	Redacted Declaration of Thomas C. Howerton filed by Plaintiff Promega Corporation re: 727 Motion for Relief from Judgment (Attachments: # 1 Exhibit 1 - Redacted) (Waxman, Seth) (Entered: 12/20/2012)
12/28/2012	741	Motion to Strike portions of 725 Brief in Reply, 726 Brief in Reply by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. Response due 1/4/2013. (Reines, Edward) Modified on 1/2/2013 (llj). (Entered: 12/28/2012)
01/04/2013	742	Disregard. See docket entry 745. Requested attorney refile condensed transcript on 1/7/2013 (jaf). Modified on 1/8/2013 (jaf). (Entered: 01/04/2013)

DATE	NO.	PROCEEDINGS
01/04/2013	743	Disregard. See docket entry 746. Requested attorney refile condensed transcript on 1/7/2013 (jaf). Modified on 1/8/2013 (jaf). (Entered: 01/04/2013)
01/04/2013	744	Brief in Opposition by Plaintiff Promega Corporation re: 741 Motion to Strike, filed by Applied Biosystems, LLC, Life Technologies Corporation, Invitrogen IP Holdings, Inc. (Waxman, Seth) (Entered: 01/04/2013)
01/07/2013	745	Deposition of Peter Goebel taken on November 8, 2012 (Sealed Document) (Waxman, Seth) (Entered: 01/07/2013)
01/07/2013	746	Deposition of David Edquist taken on November 8, 2012 (Sealed Document) (Waxman, Seth) (Entered: 01/07/2013)
01/07/2013	747	Request for clarification re: briefing on 727 Motion for Relief from Judgment Based on Newly Discovered Evidence and for New Trial by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation (Johnson, Kristine) Modified on 1/8/2013 (llj). (Entered: 01/07/2013)
01/11/2013	748	Motion to Withdraw by Sarah E. Troupis re: Counter Defendant

DATE	NO.	PROCEEDINGS
		Promega Corporation, Plaintiff Promega Corporation (Troupis, Sarah) Modified on 1/15/2013 (llj). (Entered: 01/11/2013)
01/15/2013		Set/Reset Briefing Deadlines as to 727 Motion for Relief from Judgment *Based on Newly Discovered Evidence and for a New Trial.* Brief in Opposition due 2/4/2013. Brief in Reply due 2/14/2013. (llj/BBC) (Entered: 01/15/2013)
01/16/2013	749	Stipulation to Amend June 24, 2010 Protective Order by Plaintiff Promega Corporation. (Saunders, Thomas) (Entered: 01/16/2013)
01/17/2013	750	** TEXT ONLY ORDER ** ORDER accepting 749 stipulation and amending the June 24, 2010, protective order accordingly. Signed by Magistrate Judge Peter A. Oppeneer on 1/17/2013. (llj) (Entered: 01/17/2013)
01/17/2013	751	** TEXT ONLY ORDER ** ORDER granting 748 Motion to Withdraw by Sarah E. Troupis. Signed by Magistrate Judge Peter A. Oppeneer on 1/17/2013. (llj) (Entered: 01/17/2013)
01/18/2013	752	Motion for Extension of Time *to File Opposition Memorandum* by Defendants Applied Biosystems,

DATE	NO.	PROCEEDINGS
		LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. Motions referred to Magistrate Judge Peter A. Oppeneer. Response due 1/25/2013. (Johnson, Kristine) (Entered: 01/18/2013)
01/21/2013	753	Brief in Opposition by Plaintiff Promega Corporation re: 752 MOTION for Extension of Time, filed by Applied Biosystems, LLC, Life Technologies Corporation, Invitrogen IP Holdings, Inc. (Waxman, Seth) (Entered: 01/21/2013)
01/22/2013	754	** TEXT ONLY ORDER ** Defendant may have until February 19, 2013, to file its opposition brief re: 727 Motion for Relief from Judgment. Signed by Magistrate Judge Peter A. Oppeneer on 1/22/2013. (llj) (Entered: 01/22/2013)
02/20/2013	755	Brief in Opposition by Defendant Life Technologies Corporation re: 727 Motion for Relief from Judgment filed by Promega Corporation (Attachments: #1 Declaration of Timothy C. Saulsbury Pursuant to Section IV.G, Administrative Procedures Governing Untimely Filings Due to Failures of the Court's Electronic Filing System) (Saulsbury,

DATE	NO.	PROCEEDINGS
		Timothy) Modified on 2/21/2013 (llj). (Entered: 02/20/2013)
02/20/2013	756	Declaration of Peter Goebel filed by Defendant Life Technologies Corporation re: 727 Motion for Relief from Judgment (Sealed Document) (Saulsbury, Timothy) Modified on 2/21/2013 (llj). (Entered: 02/20/2013)
02/20/2013	757	Declaration of Charles Hess filed by Defendant Life Technologies Corporation re: 727 Motion for Relief from Judgment (Sealed Document) (Saulsbury, Timothy) Modified on 2/21/2013 (llj). (Entered: 02/20/2013)
02/20/2013	758	Declaration of Kristine E. Johnson filed by Defendant Life Technologies Corporation re: 727 Motion for Relief from Judgment (Sealed Document) (Attachments: # 1 Exhibit A - November 7, 2011 response letter to Mr. Karge, # 2 Exhibit B - Notice of Rule 30(b)(6) Deposition, # 3 Exhibit C - Responses to Promega's Second Set Of Interrogatories) (Saulsbury, Timothy) Modified on 2/21/2013 (jaf). Modified on 2/21/2013 (llj). (Entered: 02/20/2013)
02/20/2013	759	Declaration of Hugh Pasika filed by Defendant Life Technologies

DATE	NO.	PROCEEDINGS
		Corporation re: 727 Motion for Relief from Judgment (Sealed Document) (Saulsbury, Timothy) Modified on 2/21/2013 (llj). (Entered: 02/20/2013)
02/20/2013	760	Declaration of Christopher V. Popov filed by Defendant Life Technologies Corporation re: 727 Motion for Relief from Judgment (Sealed Document) (Attachments: # 1 Exhibit A - May 9, 2012 Letter, # 2 Exhibit B - June 13, 2012 Email, # 3 Exhibit C - July 27, 2012 Email, # 4 Exhibit D - August 1, 2012 Email, # 5 Exhibit E - August 3, 2012 Email, # 6 Exhibit F - Spreadsheet) (Saulsbury, Timothy) Modified on 2/21/2013 (jaf). Modified on 2/21/2013 (llj). (Entered: 02/20/2013)
02/20/2013	761	Exhibit A to 755 Brief in Opposition, Declaration of Timothy C. Saulsbury, re: failure of the court's electronic filing system on 2/19/2013, filed by Life Technologies Corporation. (Saulsbury, Timothy) Modified on 2/21/2013 (jaf). Modified on 2/21/2013 (llj). (Entered: 02/20/2013)
03/01/2013	762	Brief in Reply by Plaintiff Promega Corporation in Support of 727 Motion for Relief from Judgment *Based on Newly Discovered*

DATE	NO.	PROCEEDINGS
		Evidence (Sealed Document) (Waxman, Seth) (Entered: 03/01/2013)
03/01/2013	763	Declaration of Stewart W. Karge filed by Plaintiff Promega Corporation re: 727 Motion for Relief from Judgment (Sealed Document) (Attachments: # 1 Exhibit 1 - Promega 3d Document Requests) (Waxman, Seth) Modified on 3/6/2013 (llj). (Entered: 03/01/2013)
03/01/2013	764	Redacted Brief in Reply by Plaintiff Promega Corporation in Support of 727 Motion for Relief from Judgment *Based on Newly Discovered Evidence* (Waxman, Seth) (Entered: 03/01/2013)
03/01/2013	765	Redacted Declaration of Stewart W. Karge filed by Plaintiff Promega Corporation re: 727 Motion for Relief from Judgment (Attachments: # 1 Exhibit 1 - Promega 3d Document Requests) (Waxman, Seth) Modified on 3/6/2013 (llj). (Entered: 03/01/2013)
03/12/2013	766	Motion to Admit Jonathan Andrew Muenkel Pro Hac Vice. (Pro Hac Vice fee $ 50 receipt number 0758-1141730.) by Counter Claimants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life

DATE	NO.	PROCEEDINGS
		Technologies Corporation, Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. Motions referred to Magistrate Judge Peter A. Oppeneer. (Muenkel, Jonathan) (Entered: 03/12/2013)
03/12/2013	767	Notice of Withdrawal of Katherine M. Nolan-Stevaux as counsel for Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. (Johnson, Kristine) Modified on 3/13/2013 (llj). (Entered: 03/12/2013)
03/13/2013	768	** TEXT ONLY ORDER ** ORDER granting 766 Motion to Admit Jonathan Muenkel Pro Hac Vice. Signed by Magistrate Judge Peter A. Oppeneer on 3/13/2013. (llj) (Entered: 03/13/2013)
03/21/2013	769	Notice of Change of Address for Attorney Steward W. Karge. (Lewis, Brandon) Modified on 3/22/2013 (llj). (Entered: 03/21/2013)
04/22/2013	770	ORDER denying 690 Motion to Set Aside Judgment, 693 Motion to Set Aside Judgment, 697 Motion for Oral Argument, 727 Motion for Relief from Judgment, and 741 Motion to Strike. Signed by District Judge Barbara B. Crabb on

DATE	NO.	PROCEEDINGS
		4/22/2013. (llj) (Entered: 04/22/2013)
04/26/2013	771	NOTICE OF APPEAL - FEDERAL CIRCUIT by Plaintiff Promega Corporation. Filing fee of $ 455, receipt number 0758-1167828 paid. (Waxman, Seth) (Entered: 04/26/2013)
04/29/2013		Federal Circuit Court of Appeals Case Number 13-1011 reactivated for 686 Notice of Appeal filed by Promega Corporation. (llj) Modified on 4/29/2013; corrected appeal docket number (mmo). (Entered: 04/29/2013)
04/29/2013	772	ORDER from Federal Circuit that 686 Notice of Appeal, #13-1011, be REACTIVATED effective 4/26/13. (mmo) (Entered: 04/29/2013)
04/30/2013	773	In Disregard - refiled as entry 774 . Modified on 4/30/2013 (mmo). (Entered: 04/30/2013)
04/30/2013	774	Transmission of Short Record to FEDERAL CIRCUIT re 771 Notice of Appeal. (mmo) (Entered: 04/30/2013)
05/01/2013	775	Federal Circuit Case Number 13-1376 for 771 Notice of Appeal filed by Promega Corporation. (lak) (Entered: 05/01/2013)

DATE	NO.	PROCEEDINGS
05/22/2013	776	Bill of Costs by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. Motions referred to Magistrate Judge Peter A. Oppeneer. Objection to Bill of Costs due 6/3/2013. Brief in Support to Bill of Costs due 6/11/2013. Brief in Reply in Opposition to Bill of Costs due 6/17/2013. (Attachments: # 1 Declaration of Kristine E. Johnson in Support of Defendants' Bill of Costs - Refiled 777, # 2 Exhibit A to Declaration of Kristine E. Johnson - Refiled [777-1], # 3 Exhibit B to Declaration of Kristine E. Johnson - Refiled [777-2], # 4 Exhibit C-1 to Declaration of Kristine E. Johnson - Refiled [777-3], # 5 Exhibit C-2 to Declaration of Kristine E. Johnson - Refiled [777-4]) (Johnson, Kristine) Requested attorney refile declaration as individual docket entry with any exhibits separated and identified properly on 5/23/2013 (jaf). Modified on 5/24/2013 (jaf). Modified on 5/31/2013 (llj). (Entered: 05/22/2013)
05/23/2013	777	Declaration of Kristine E. Johnson in Support of 776 Bill of Costs, (Attachments: # 1 Exhibit A – Detailed List of Fees for Deposition and Trial Transcripts, # 2 Exhibit B – Detailed List of Fees for

DATE	NO.	PROCEEDINGS
		Copying Costs, # 3 Exhibit C-1 – Fees and Costs Associated with E-Discovery Document Production, # 4 Exhibit C-2 – Fees and Costs Associated with E-Discovery Document Production) (Johnson, Kristine) Modified on 5/31/2013 (llj). (Entered: 05/23/2013)
07/10/2013	778	ORDER on Bill of Costs: Costs Taxed in favor of Defendants in the amount of $ 58,191.99. Signed by Peter A. Oppeneer, Clerk of Court by Deputy Clerk R.Plender on 7/10/13. (rep) (Entered: 07/10/2013)
07/11/2013	779	Stipulation to Unseal Portions of the Record by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. (Modl, Michael) (Entered: 07/11/2013)
07/11/2013	780	** TEXT ONLY ORDER ** Stipulation to unseal portions of the record (dkt. 779) is accepted; identified documents to be unsealed accordingly. Signed by Magistrate Judge Peter A. Oppeneer on 7/11/13. (rep) (Entered: 07/11/2013)
12/17/2014	781	ORDER from USCA for the Federal Circuit Affirming In Part, Reversing In Part, Vacating In Part And Remanding Case as to 147 Notice of Appeal, filed by Promega

DATE	NO.	PROCEEDINGS
		Corporation, 686 Notice of Appeal filed by Applied Biosystems, LLC, Life Technologies Corporation, Invitrogen IP Holdings, Inc., 703 Notice of Appeal, filed by Promega Corporation, 771 Notice of Appeal filed by Promega Corporation. (Attachments: # 1 Notice of Entry of Judgment, # 2 Information Sheet, # 3 Rehearing Questions and Answers) (voc) (Entered: 12/17/2014)
01/26/2015		Set Telephone Status Conference: Telephone Status Conference set for 2/11/2015 at 08:30 AM before Magistrate Judge Stephen L. Crocker. Counsel for Plaintiff responsible for setting up the call to chambers at (608) 264-5153. (voc) (Entered: 01/26/2015)
01/26/2015		Telephone Status Conference rescheduled to 2/11/2015 at 09:00 AM before Peter Oppeneer. Counsel for Plaintiff responsible for setting up the call to chambers at 608-261-5795. (voc) (Entered: 01/26/2015)
01/28/2015	782	Status Report by Counter Claimant Life Technologies Corporation, Defendant Life Technologies Corporation (Attachments: # 1 Certificate of Service) (Modl, Michael) (Entered: 01/28/2015)

DATE	NO.	PROCEEDINGS
01/29/2015	783	** TEXT ONLY ORDER ** The 2/11/2015 Telephone Status Conference is canceled pending receipt of the USCA mandate. Signed by Magistrate Judge Peter A. Oppeneer on 1/29/2015. (voc) (Entered: 01/29/2015)
03/06/2015	784	Mandate from USCA for the Federal Circuit as to 147 Notice of Appeal, filed by Promega Corporation, 686 Notice of Appeal filed by Applied Biosystems, LLC, Life Technologies Corporation, Invitrogen IP Holdings, Inc., 771 Notice of Appeal filed by Promega Corporation. (voc) (Entered: 03/06/2015)
03/09/2015		Set Telephone Status Conference: Telephone Status Conference set for 3/31/2015 at 01:30 PM before Judge Barbara B. Crabb. Counsel for Plaintiff responsible for setting up the call to chambers at (608) 264-5447. (voc/sv/bbc) (Entered: 03/09/2015)
03/24/2015	785	Notice of Withdrawal of Counsel by Michael J. Modl re: Defendants Applied Biosystems, LLC, Life Technologies Corporation, Counter Claimant Invitrogen IP Holdings, Inc. *Notice of Withdrawal of Michael R. McCarthy*. (Modl,

DATE	NO.	PROCEEDINGS
		Michael) Modified on 3/25/2015. (lak) (Entered: 03/24/2015)
03/24/2015	786	Notice of Withdrawal of Counsel by Michael J. Modl re: Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. *Notice of Withdrawal of Kristine E. Johnson.* (Modl, Michael) Modified on 3/25/2015. (lak) (Entered: 03/24/2015)
03/24/2015	787	Notice of Withdrawal of Counsel by Michael J. Modl re: Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. *Notice of Withdrawal of Francis M Wikstrom.* (Modl, Michael) Modified on 3/25/2015. (lak) (Entered: 03/24/2015)
03/26/2015	788	Notice of Withdrawal of Counsel by Susan Rebecca Podolsky re: Counter Defendant Promega Corporation, Plaintiff Promega Corporation. (Podolsky, Susan) (Entered: 03/26/2015)
03/27/2015	789	Notice of Appearance filed by David J. Harth for Plaintiff Promega Corporation. (Harth, David) (Entered: 03/27/2015)
03/27/2015	790	Notice of Appearance filed by John S. Skilton for Plaintiff Promega

DATE	NO.	PROCEEDINGS
		Corporation. (Skilton, John) (Entered: 03/27/2015)
03/27/2015	791	Notice of Appearance filed by David L. Anstaett for Plaintiff Promega Corporation. (Anstaett, David) (Entered: 03/27/2015)
03/27/2015	792	Notice of Appearance filed by Anne M. Readel for Plaintiff Promega Corporation. (Readel, Anne) (Entered: 03/27/2015)
03/27/2015	793	Notice of Change of Address by Brandon Michael Lewis (Lewis, Brandon) (Entered: 03/27/2015)
03/31/2015		Minute Entry for proceedings held before District Judge Barbara B. Crabb: Telephone Status Conference held on 3/31/2015 [:15] (sky) (Entered: 03/31/2015)
04/17/2015	794	ORDER re: 3/31/2015 Status Conference. The parties discussed the scope of the Federal Circuit remand. The parties agreed that briefing would be helpful to narrow the issues prior to scheduling a new trial date. Signed by District Judge Barbara B. Crabb on 4/16/2015. (voc) (Entered: 04/17/2015)
04/17/2015		Briefing set re: Briefing after Federal Circuit remand. Simultaneous opening briefs due 5/1/2015. Simultaneous response briefs due 5/15/2015. Signed by

DATE	NO.	PROCEEDINGS
		District Judge Barbara B. Crabb on 4/17/2015. (voc) Modified on 7/20/2015 (voc/sv). (Entered: 04/17/2015)
05/01/2015	795	Redaction to 796 Response to Order, by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. (Modl, Michael) Modified on 5/4/2015 to correct docketing event. (lak) (Entered: 05/01/2015)
05/01/2015	796	Response re: 794 Order, by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. (Sealed Document) (Modl, Michael) (Entered: 05/01/2015)
05/01/2015	797	Declaration of Edward Reines filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 794 Order, (Attachments: # 1 Exhibit 1 - Promega Petition for Panel Rehearing Excerpts, # 2 Exhibit 2 - Life Petition for Panel Rehearing Excerpts, # 3 Exhibit 3 - PTX0341, # 4 Exhibit 4 - Tautz Complaint, # 5 Exhibit 5 - Release and Covenant Not to Sue Excerpts, # 6 Exhibit 6 - Promega Opening Brief Excerpts, # 7 Exhibit 7 - Appellants Reply Brief and Cross

DATE	NO.	PROCEEDINGS
		Appeal Response Excerpts) (Modl, Michael) (Entered: 05/01/2015)
05/01/2015	798	Response re: 794 Order, by Plaintiff Promega Corporation. (Anstaett, David) (Entered: 05/01/2015)
05/15/2015	799	Response re: 794 Order. *Response to Promega Corporation's Opening Brief Regarding Scope of Remand* by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. (Sealed Document) (Modl, Michael) (Entered: 05/15/2015)
05/15/2015	800	Declaration of Edward R. Reines filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation *in Support of Defendants' Response to Promega Corp.'s Opening Brief Regarding Scope of Remand* re: 794 Order, (Attachments: # 1 Exhibit 8 - Copy of Life Tech's Reply Brief and Cross Appeal Response) (Modl, Michael) (Entered: 05/15/2015)
05/15/2015	801	Redaction to 799 Response to Order. *Response to Promega Corporation's Opening Brief Regarding Scope of Remand* by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation.

DATE	NO.	PROCEEDINGS
		(Modl, Michael) (Entered: 05/15/2015)
05/15/2015	802	Response re: 794 Order. *Response Brief on Structure of Remand Proceedings* by Plaintiff Promega Corporation. (Anstaett, David) (Entered: 05/15/2015)
06/08/2015	803	Status Report by Counter Claimant Life Technologies Corporation, Defendant Life Technologies Corporation. (Modl, Michael) (Entered: 06/08/2015)
06/09/2015	804	Status Report *in Response to Dkt. 803* by Counter Defendant Promega Corporation, Plaintiff Promega Corporation. (Anstaett, David) (Entered: 06/09/2015)
06/26/2015	805	Motion to Stay *Pending Petition for Writ of Certiorari to the United States Supreme Court* by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation. Response due 7/6/2015. (Modl, Michael) (Entered: 06/26/2015)
06/26/2015	806	Declaration of Edward R. Reines filed by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation re: 805. Motion to Stay, (Attachments: # 1 Exhibit 1 - Copy of Life Technology Corporation's

DATE	NO.	PROCEEDINGS
		Petition for Writ of Certiorari) (Modl, Michael) (Entered: 06/26/2015)
06/30/2015	807	Unopposed Motion for Extension of Time by Plaintiff Promega Corporation. Motions referred to Magistrate Judge Peter A. Oppeneer. (Anstaett, David) (Entered: 06/30/2015)
07/01/2015	808	** TEXT ONLY ORDER ** ORDER granting 807 Motion for Extension of Time. Brief in Opposition due 7/10/2015. Signed by Magistrate Judge Peter A. Oppeneer on 7/1/2015. (voc) (Entered: 07/01/2015)
07/10/2015	809	Brief in Opposition by Plaintiff Promega Corporation re: 805 Motion to Stay filed by Applied Biosystems, LLC, Life Technologies Corporation, Invitrogen IP Holdings, Inc. (Anstaett, David) (Entered: 07/10/2015)
		* * * *
07/15/2015	811	ORDER granting 805 Motion to Stay by Defendants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation. This case is STAYED pending a decision from the United States Supreme Court on defendants' petition for a writ of

DATE	NO.	PROCEEDINGS
		certiorari. Defendants are directed to notify this court within seven days of the Supreme Court's decision on the petition. Signed by District Judge Barbara B. Crabb on 7/14/2015. (voc) (Entered: 07/15/2015)
		* * * *
07/14/2016	814	** TEXT ONLY ORDER ** Defendants Life Technologies Corporation, Invitrogen IP Holdings, Inc. and Applied Biosystems, Inc., have moved for a continuation of the stay of this case pending determination by the United States Supreme Court of the question upon which the Court granted their motion for a writ of certiorari. The motion 813 is granted. Signed by District Judge Barbara B. Crabb on 7/14/2016. (voc) (Entered: 07/14/2016)

U.S. COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

No. 13-1011

PROMEGA CORPORATION,

Plaintiff, Cross-Appellant,

v.

LIFE TECHNOLOGIES CORPORATION, INVITROGEN IP HOLDINGS, INC., APPLIED BIOSYSTEMS, LLC,

Defendants-Appellants.

DOCKET ENTRIES

DATE	NO.	PROCEEDINGS
10/12/2012	1	Appeal docketed. Received: 09/28/2012. [29617] Entry of Appearance due 10/26/2012. Certificate of Interest is due on 10/26/2012. Docketing Statement due 10/26/2012. Appellant/ Petitioner's brief due 12/11/2012.
10/16/2012	2	Transcript Purchase Order Form for the Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation indicating that a transcript is already on file. Service: 10/10/2012 by US mail. [29965]

DATE	NO.	PROCEEDINGS
10/23/2012	3	Entry of appearance for Seth P. Waxman as principal counsel for Appellee Promega Corporation. Service: 10/23/2012 by email. [31261]
10/23/2012	4	Entry of appearance for Mark C. Fleming as of counsel for Appellee Promega Corporation. Service: 10/23/2012 by email. [31262]
10/23/2012	5	Docketing Statement for the Appellee Promega Corporation. Service: 10/23/2012 by email. [31263]
10/24/2012	6	Note to file: 13-1029 (cross-appeal started 10/24/2012) is consolidated with 13-1011. [31270]
10/24/2012	7	Official caption revised to add cross appeal by Promega Corp. Service: 10/24/2012 by clerk. [31276]
10/24/2012	8	Certificate of Interest for the Cross-Appellant Promega Corporation. Service: 10/24/2012 by email. [31447]
10/25/2012	9	Corrected Docketing Statement for the Cross-Appellant Promega Corporation. Service: 10/25/2012 by email. [31586]
10/25/2012	10	Entry of appearance for Susan R. Podolsky as of counsel for Cross-Appellant Promega Corporation. Service: 10/25/2012 by email. [31598]
10/25/2012	11	Entry of appearance for Edward R. Reines as principal counsel for Appellants Applied Biosystems,

DATE	NO.	PROCEEDINGS
		LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation. Service: 10/25/2012 by email. [31682]
10/25/2012	12	Entry of appearance for Timothy C. Saulsbury as of counsel for Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation. Service: 10/25/2012 by email. [31683]
10/26/2012	13	Docketing Statement for the Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation. Service: 10/26/2012 by email. [31864]
10/26/2012	14	Certificate of Interest for the Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation. Service: 10/26/2012 by email. [31865]
10/26/2012	15	Entry of appearance for Bradford P. Schmidt as of counsel for Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation. Service: 10/26/2012 by email. [31866]
10/31/2012	16	Notice from Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation regarding postjudgment motions. Service: 10/31/2012 by email. [32114]

DATE	NO.	PROCEEDINGS
11/06/2012	17	CORRECTED ENTRY: ORDER deactivating appeal. Service: 11/06/2012 by clerk. [32951]—[Edited 11/06/2012 by SJ - Reason: to add additional case number and appeal date]
11/06/2012	18	Clerk's Notice to the Originating Tribunal: Upon disposition of the motion(s) subject to FRAP 4(a)(4), please transmit a certified copy of the docket entries. Service: 11/06/2012 by clerk [32961]
04/23/2013	19	Notice from Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation regarding postjudgment motions. Service: 04/23/2013 by email, US mail. [70389]
04/26/2013	20	ORDER reactivating case. Service: 04/26/2013 by. [71697] [13-1011, 13-1029]
04/26/2013	21	Entry of appearance for Proshanto Mukherji as of counsel for Cross-Appellant Promega Corporation. Service: 04/26/2013 by email. [72165]
04/29/2013	22	Saulsbury Letter to Mr. Horbaly for Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation. Service: 04/29/2013 by email, US mail. [72748]

DATE	NO.	PROCEEDINGS
05/01/2013	23	Note to file: 13-1376 (Consolidated started 05/01/2013) with 13-1011. [73528]
05/01/2013	24	Official caption revised; Amended NOA filed. Service: 05/01/2013 by clerk. [73530]
05/13/2013	25	Entry of appearance for Dina B. Mishra as of counsel for Cross-Appellant Promega Corporation. Service: 05/13/2013 by email, US mail. [77126]
05/15/2013	26	Entry of appearance for Thomas G. Saunders as of counsel for Cross-Appellant Promega Corporation. Service: 05/15/2013 by email. [78057]
05/15/2013	27	Amended Docketing Statement for the Cross-Appellant Promega Corporation. Service: 05/15/2013 by email. [78060]
05/17/2013	28	Entry of appearance for Derek C. Walter as of counsel for Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation. Service: 05/17/2013 by email, US mail. [78788]
06/07/2013	29	MOTION of Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation to extend the time to 07/19/2013 to file the appellant/petitioner's principal brief.

DATE	NO.	PROCEEDINGS
		Response/Opposition is due 06/20/2013 [Consent: unopposed]. Service: 06/07/2013 by email, US mail. [84983]
06/10/2013	30	ORDER granting motion to extend time to file appellant's principal brief [29] filed by Applied Biosystems, LLC, Life Technologies Corporation and Invitrogen IP Holdings, Inc. Brief due 07/19/2013. Service: 06/10/2013 by clerk. [85097]
06/10/2013	31	Certificate of Compliance with Fed. Cir. R. 11(d) (Trial Court) for Cross-Appellant Promega Corporation. Service: 06/10/2013 by email. [85356]
06/10/2013	32	Certificate of Compliance with Fed. Cir. R. 11(d) (Trial Court) for Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation. Service: 06/10/2013 by email, US mail. [85358]
07/12/2013	33	TENDERED from Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation. Title: OPENING BRIEF W/ APPENDIX. Service: 07/12/2013 by email. [91439]
07/12/2013	34	TENDERED from Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation. Title:

DATE	NO.	PROCEEDINGS
		CONFIDENTIAL OPENING BRIEF W/ APPENDIX Service: 07/12/2013 by email. [91440]
07/12/2013	36	BRIEF FILED for Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation [34], [33]. Title: Opening Brief of Defendants-Appellants , [Confidential and Non-Confidential versions]. Number of Pages: 61. Service: 07/12/2013 by email. Pursuant to ECF-10, filer is directed to file six copies of the brief in paper format. The paper copies of the brief should be received by the court on or before 07/22/2013. Cross-Appellant Promega Corporation brief is due 08/26/2013. [91523]
07/15/2013	35	Entry of appearance for Carter G. Phillips as of counsel for Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation. Service: 07/15/2013 by email, US mail. [91509]
07/19/2013	37	6 paper copies of the 1st brief Brief [36] received from Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation. [93860]

DATE	NO.	PROCEEDINGS
08/12/2013	38	Entry of appearance for Eric F. Fletcher as of counsel for Cross-Appellant Promega Corporation. Service: 08/12/2013 by email. [97616]
08/26/2013	39	TENDERED from Cross-Appellant Promega Corporation. Title: OPENING BRIEF W/ APPENDIX. Service: 08/26/2013 by email. [100219]
08/26/2013	40	TENDERED from Cross-Appellant Promega Corporation. Title: CONFIDENTIAL OPENING BRIEF W/ APPENDIX Service: 08/26/2013 by email. [100221]
08/26/2013	41	BRIEF FILED for Cross-Appellant Promega Corporation [40], [39]. Title: OPENING BRIEF OF PLAINTIFF-CROSS APPELLANT PROMEGA CORPORATION, [Confidential and Non-Confidential versions]. Number of Pages: 186. Service: 08/26/2013 by email.. Pursuant to ECF-10, filer is directed to file six copies of the brief in paper format. The paper copies of the brief should be received by the court on or before 09/03/2013. Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation reply brief is due 10/10/2013-[Edited 08/29/2013 by CC to schedule the correct due date.]. [100642]

DATE	NO.	PROCEEDINGS
09/05/2013	42	6 paper copies of the 2nd brief Brief [41] received from Cross-Appellant Promega Corporation. [101775]
10/10/2013	43	TENDERED from Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation. Title: REPLY BRIEF. Service: 10/10/2013 by email. [109617]
10/10/2013	44	BRIEF FILED for Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation [43]. Title: Defendants-Appellants' Reply Brief and Cross Appeal, [Non-Confidential version only]. Number of Pages: 58. Service: 10/10/2013 by clerk. Pursuant to ECF-10, filer is directed to file six copies of the brief in paper format. The paper copies of the brief should be received by the court on or before 10/16/2013. Cross-Appellant's reply brief is due 10/28/2013. [109735]
10/15/2013	45	6 paper copies of the 3rd brief Brief [44] received from Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation. [110673]
10/18/2013	46	Statement of Compliance with Fed. Cir. R. 33 for Appellants Applied Biosystems, LLC, Invitrogen IP

DATE	NO.	PROCEEDINGS
		Holdings, Inc., Life Technologies Corporation and Cross-Appellant Promega Corporation. Service: 10/18/2013 by email. [111420]
10/28/2013	47	TENDERED from Cross-Appellant Promega Corporation. Title: REPLY BRIEF. Service: 10/28/2013 by email. [113352]
10/28/2013	48	TENDERED from Cross-Appellant Promega Corporation. Title: CONFIDENTIAL REPLY BRIEF Service: 10/28/2013 by email. [113353]
10/28/2013	49	BRIEF FILED for Cross-Appellant Promega Corporation [48], [47]. Title: Reply Brief of Plaintiff-Cross Appellant Promega Corporation, [Confidential and Non-Confidential versions]. Number of Pages: 30. Service: 10/28/2013 by email. Pursuant to ECF-10, filer is directed to file six copies of the brief in paper format. The paper copies of the brief should be received by the court on or before 11/04/2013. Appendix is due 11/07/2013. [113445]
10/31/2013	50	6 paper copies of the 4th brief Brief [49] received from Cross-Appellant Promega Corporation. [114058]

DATE	NO.	PROCEEDINGS
11/04/2013	51	TENDERED from Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation and Cross-Appellant Promega Corporation. Title: CONFIDENTIAL JOINT APPENDIX Service: 11/04/2013 by email. [114730]
11/04/2013	52	TENDERED from Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc., Life Technologies Corporation and Cross-Appellant Promega Corporation. Title: JOINT APPENDIX. Service: 11/04/2013 by email. [114744]
11/04/2013	53	APPENDIX FILED for Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation [52], [51]. Title: Joint Appendix (Four Volumes), [Confidential and Non-Confidential versions]. Number of Pages: 2179. Service: 11/04/2013 by email. Pursuant to ECF-10, filer is directed to file six copies of the brief in paper format. The paper copies of the brief should be received by the court on or before 11/12/2013. [114872]
11/07/2013	54	Notice from Cross-Appellant Promega Corporation regarding conflicts with oral argument (commitments in other cases

DATE	NO.	PROCEEDINGS
		1/6/2014 to 1/10/2014). Service: 11/07/2013 by email. [115580]
11/12/2013	55	24 paper copies of the appendix Brief [53] received from Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation. [116699]
11/14/2013	56	Letter from Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation regarding potential conflicts with oral argument. Service: 11/14/2013 by email. [116990]
01/02/2014	57	Notice from Cross-Appellant Promega Corporation regarding conflicts with oral argument (March 3, 2014). Service: 01/02/2014 by email. [126683]
01/03/2014	58	This entry was made in error and has been removed from the docket. Notice from Cross-Appellant Promega Corporation regarding conflicts with oral argument (cross-appellant requesting argument to not be set with 13-1454 on the same day). (Noted by Clerk). Service: 01/02/2014 by email. [126744]
01/22/2014	59	NOTICE OF CALENDARING. Panel: 1403C. Case scheduled Mar 04, 2014 10:00 a.m. at the United States Court of Appeals for the

DATE	NO.	PROCEEDINGS
		Federal Circuit (Howard T. Markey National Courts Building, 717 Madison Place, N.W. Washington, DC 20439), Courtroom 201. Response to oral argument order due: 02/18/2014. Counsel should check-in 30 minutes prior to the opening of the session. Please review the Oral Argument Order. [130775] [13-1011, 13-7059, 13-1454, 13-1513]
01/28/2014	60	MOTION of Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation to withdraw counsel Timothy C. Saulsbury. Response/ Opposition is due 02/10/2014 [Consent: unopposed]. Service: 01/28/2014 by email. [132233]
01/30/2014	61	ORDER filed granting motion to withdraw attorney [60] filed by Appellants Applied Biosystems, LLC, Life Technologies Corporation and Invitrogen IP Holdings, Inc. By: Merits Panel (Per Curiam). Service: 01/30/2014 by clerk. [132868]
01/30/2014	62	CORRECTED ORDER: correcting court order [61] granting appellants' motion to withdraw Timothy C. Saulsbury as counsel. Service: 01/30/2014 by clerk.
02/11/2014	63	Response to oral argument order from the Cross-Appellant Promega

DATE	NO.	PROCEEDINGS
		Corporation designating Seth P. Waxman as arguing attorney. Service: 02/11/2014 by email Designated time for argument: 10 minutes. Designated time for rebuttal: 5 minutes. [135390]
02/14/2014	64	Amended Certificate of Interest for the Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation. Service: 02/13/2014 by email. [135785]
02/14/2014	65	Response to oral argument order from the Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation designating Edward R. Reines as arguing attorney. Service: 02/13/2014 by email Designated time for argument: 8 minutes. Designated time for rebuttal: 7 minutes. [135786]
02/25/2014	66	MOTION of Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation to withdraw counsel Bradford Paul Schmidt. Response/ Opposition is due 03/10/2014 [Consent: unopposed]. Service: 02/25/2014 by email. [138182]
02/27/2014	67	ORDER filed granting motion to withdraw attorney [66] filed by

DATE	NO.	PROCEEDINGS
		Appellants Applied Biosystems, LLC, Life Technologies Corporation and Invitrogen IP Holdings, Inc. By: Merits Panel (Per Curiam). Service: 02/27/2014 by clerk. [138619]
03/04/2014	68	Submitted after ORAL ARGUMENT by Edward R. Reines for Applied Biosystems, LLC, Life Technologies Corporation and Invitrogen IP Holdings, Inc. and Mr. Seth P. Waxman for Promega Corporation. Panel: Judge: Prost , Judge: Mayer, Judge: Chen. [139316]
12/15/2014	69	OPINION and JUDGMENT filed. The judgment or decision is: affirmed-in-part, reversed-in-part, vacated-in-part, and remanded. (Precedential Opinion). (For the Court: Prost, Chief Judge; Mayer, Circuit Judge and Chen, Circuit Judge). Dissenting-in-part opinion filed by Cheif [sic] Judge Prost. [203973]
01/13/2015	70	Entry of appearance for Marion M. Read as of counsel for Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation. Service: 01/13/2015 by email. [209410]
01/14/2015	71	Petition for panel rehearing, for en banc rehearing filed by Appellants

DATE	NO.	PROCEEDINGS
		Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation. Service: 01/14/2015 by email. [209942]
01/14/2015	72	Petition for panel rehearing filed by Cross-Appellant Promega Corporation. Service: 01/14/2015 by email. [209947]
01/15/2015	73	3 paper copies of the petition for panel rehearing [72] received from Cross-Appellant Promega Corporation. [210256]
01/16/2015	74	16 paper copies of the petition for panel rehearing and for en banc rehearing [71] received from Appellants Applied Biosystems, LLC, Invitrogen IP Holdings, Inc. and Life Technologies Corporation. [210366]
01/20/2015	75	The court invites a response from Cross-Appellant Promega Corporation to the combined petition for panel rehearing and en banc rehearing filed by Appellants in 13-1011. [210899]
01/27/2015	76	Entry of appearance for David Swetnam-Burland as of counsel for Newegg, Inc., Acushnet Company, Limelight Networks, Inc., QVC, Inc., and SAS Institute Inc. Service: 01/27/2015 by email. [212954]
01/27/2015	77	MOTION of Newegg, Inc., Acushnet

DATE	NO.	PROCEEDINGS
		Company, Limelight Networks, Inc., QVC, Inc., and SAS Institute Inc. for leave to file amicus brief in support of Defendants-Appellants Life Technologies Corporation, Invitrogen IP Holdings, Inc., and Applied Biosystems, LLC on petition for panel rehearing [71], petition for en banc rehearing [71]. Response/Opposition is due 02/09/2015 [Consent: unopposed]. Service: 01/27/2015 by email. [212957]
01/27/2015	78	TENDERED from Newegg, Inc., Acushnet Company, Limelight Networks, Inc., QVC, Inc., and SAS Institute Inc. Title: AMICUS CURIAE BRIEF. Service: 01/27/2015 by email. [212959]
01/28/2015	79	TENDERED from Newegg, Inc., Acushnet Company, Limelight Networks, Inc., QVC, Inc., and SAS Institute Inc Title: AMENDED AMICUS CURIAE BRIEF. Service: 01/28/2015 by email. [213205]
01/28/2015	80	Entry of appearance for Daryl L. Joseffer as principal counsel for The Internet Association. Service: 01/28/2015 by email. [213484]
01/28/2015	81	MOTION of The Internet Association for leave to file amicus brief in support of The Internet Association on petition for panel rehearing [71],

DATE	NO.	PROCEEDINGS
		petition for en banc rehearing [71]. Response/Opposition is due 02/12/2015 [Consent: unopposed]. Service: 01/28/2015 by email. [213486]
01/28/2015	82	TENDERED from The Internet Association Title: AMICUS CURIAE BRIEF. Service: 01/26/2015 by email. [213487]
01/28/2015	83	Entry of appearance for Adam M. Conrad as of counsel for The Internet Association. Service: 01/28/2015 by email. [213488]
01/28/2015	84	Entry of appearance for Paul Alessio Mezzina as of counsel for The Internet Association. Service: 01/28/2015 by email. [213489]
02/02/2015	86	ORDER filed granting motion to file amicus brief on rehearing petition [81]. By: Court (Per Curiam). Service as of this date by Clerk of Court. [214258]
02/02/2015	87	AMICUS BRIEF FILED for The Internet Association [82]. Number of Pages: 10. Service: 01/28/2015 by email. Pursuant to ECF-10, filer is directed to file 16 copies of the brief in paper format. The paper copies of the brief should be received by the court on or before 02/04/2015. [214260]

DATE	NO.	PROCEEDINGS
02/02/2015	88	16 paper copies of the amicus Brief [87] received from Amicus Curiae The Internet Association. [214483]
02/03/2015	89	RESPONSE of Cross-Appellant Promega Corporation to the petition for panel rehearing [71] filed by Appellants Applied Biosystems, LLC, Life Technologies Corporation and Invitrogen IP Holdings, Inc. in 13-1011, petition for en banc rehearing [71] filed by Appellants Applied Biosystems, LLC, Life Technologies Corporation and Invitrogen IP Holdings, Inc. in 13-1011. Service: 02/03/2015 by email. [214864]
02/06/2015	90	19 paper copies of the response [89] received from Cross-Appellant Promega Corporation. [215982]
02/09/2015	91	ORDER filed granting motion to file amicus brief on rehearing petition [77]. By: Court (Per Curiam). Service as of this date by Clerk of Court. [216059]
02/09/2015	92	AMICUS BRIEF FILED for Acushnet Company, Limelight Networks, Inc., Newegg, Inc., QVC, Inc. and SAS Institute Inc. [79]. Number of Pages: 8. Service: 01/28/2015 by email. Pursuant to ECF-10, filer is directed to file 16 copies of the brief in paper format. The paper copies of the brief should

DATE	NO.	PROCEEDINGS
		be received by the court on or before 2/11/15. [216062]
02/09/2015	93	Entry of appearance for Stacy O. Stitham as of counsel for Amici Curiae Acushnet Company, Limelight Networks, Inc., Newegg, Inc., QVC, Inc. and SAS Institute Inc. Service: 02/09/2015 by email. [216074]
02/11/2015	94	16 paper copies of the amicus Brief [92] received from Amici Curiae Acushnet Company, Limelight Networks, Inc., Newegg, Inc., QVC, Inc. and SAS Institute Inc. [216616]
02/24/2015	95	Entry of appearance for Peter J Brann as principal counsel for Amici Curiae Acushnet Company, Limelight Networks, Inc., Newegg, Inc., QVC, Inc. and SAS Institute Inc. Service: 02/24/2015 by email. [219704]
02/26/2015	96	ORDER filed denying [72] petition for panel rehearing filed by Promega Corporation. By: Merits Panel (Per Curiam). Service as of this date by Clerk of Court. [220138]
02/26/2015	97	ORDER filed denying [71] petition for panel rehearing; denying [71] petition for en banc rehearing filed by Applied Biosystems, LLC, Life Technologies Corporation and Invitrogen IP Holdings, Inc. By: En

DATE	NO.	PROCEEDINGS
		Banc (Per Curiam). Service as of this date by Clerk of Court. [220144]
03/06/2015	98	Mandate issued to the United States District Court for the Western District of Wisconsin. Service as of this date by Clerk of Court [222029] [13-1011, 13-1029, 13-1376]
05/04/2015	99	Notice from the Supreme Court of the United States granting the application for an extension of time to file a petition for writ of certiorari to and including June 26, 2015. [237781]
07/01/2015	100	Petition for writ of Certiorari filed on 06/26/2015 in the Supreme Court of the United States. Supreme Court #: 14-1538, Life Technologies Corporation v. Promega Corporation. [252850]
06/27/2016	101	The petition for writ of certiorari, [14-1538], filed on 06/26/2015, was Granted (limited to question 2 presented by the petition) on 06/27/2016. [346892]

US00RE37984E

(19) **United States**
(12) **Reissued Patent**
Jäckle et al.

(10) **Patent Number: US RE37,984 E**
(45) **Date of Reissued Patent: Feb. 11, 2003**

(54) **PROCESS FOR ANALYZING LENGTH POLYMORPHISMS IN DNA REGIONS**

(75) Inventors: **Herbert Jäckle**, Göttingen (DE); **Diethard Tautz**, Köln (DE)

(73) Assignee: **Max-Planck-Gesellschaft zur Forderung der Wissenschaften e.V.**, Gottingen (DE)

(21) Appl. No.: **09/591,383**

(22) Filed: **Jun. 9, 2000**

Related U.S. Patent Documents

Reissue of:

(64) Patent No.: **5,766,847**
Issued: **Jun. 16, 1998**
Appl. No.: **08/145,617**
Filed: **Nov. 4, 1993**

U.S. Applications:

(63) Continuation of application No. 07/681,494, filed as application No. PCT/EP89/01203 on Oct. 11, 1989, now abandoned.

(30) **Foreign Application Priority Data**

Oct. 11, 1988 (DE) 38 34 636

(51) **Int. Cl.**[7] **C12P 19/34**; C12Q 1/68; C07H 21/04

(52) **U.S. Cl.** **435/6**; 435/194; 435/91.02; 536/23.1; 536/24.3; 536/24.33

(58) **Field of Search** 435/6, 91.2, 194, 435/810; 536/22.1, 23.1, 24.3, 24.22

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(57) **ABSTRACT**

A process for analyzing length polymorphism in DNA regions wherein the following steps are carried out:

(a) annealing at least one primer pair to the DNA to be analyzed, wherein one of the molecules of the primer pair is substantially complementary to one of the complementary strands of the 5' or 3' flank of a simple or cryptically simple DNA sequence, and wherein the annealing occurs in such an orientation that the synthesis products obtained by a primer-controlled polymerisation reaction with one of said primers can serve as template for annealing the other primer after denaturation;

(b) primer-controlled polymerase chain reaction; and

(c) separating and analyzing the polymerase chain reaction products.

41 Claims, 6 Drawing Sheets

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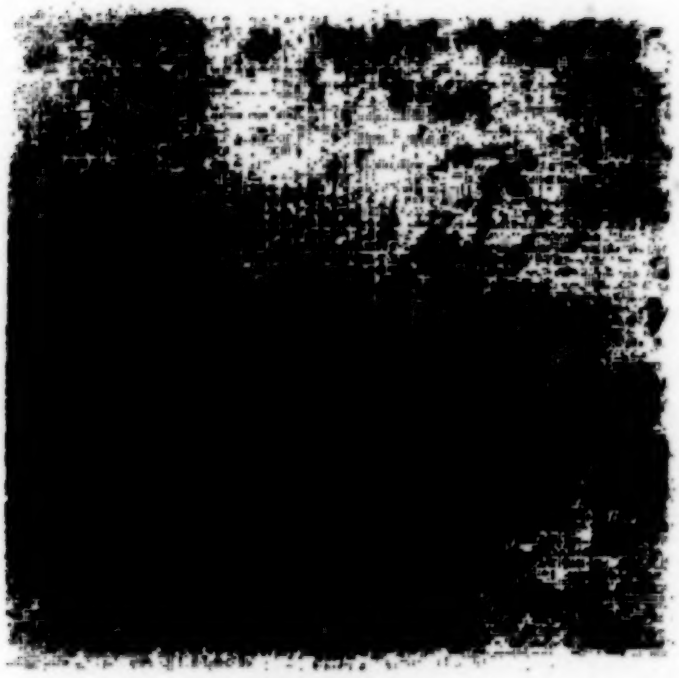

FIG. 1

TAAGCTTGGGAATCATCTCGCCGACGGGCAGCGATATGGGCATCATGCTCGCCCCGCCCC

AATCCTCGAAGAATAGTGCAATAATGCAAACGATATCACCCCAGCAACAGCAGCAGGCAGC

AGCAGCAGCAACAGCAAACATCAGCAGCAAGCAGCAGCAAGCAGCAGCAGCAGCAGC

202 nt 1 177 nt

AACAGCAGCAGCAACTCGGAGGCCTGGAGTTCGGTTCAGAGGGCTTGGACCTGAATGGAT

Hae III

TTTGTGGATCTCCGGGTAAGTGGTCACTCATGATGGACTCTATGGACTCGCTAACTAGCT

AACTAATCATTCTACCATCCCAACTTGCAGACTCATTTCACTCGGGTCAAATGAATCCGC

CCTCGATACAAAGTTCAAT

(SEQ ID NO:5)

FIGURE 2

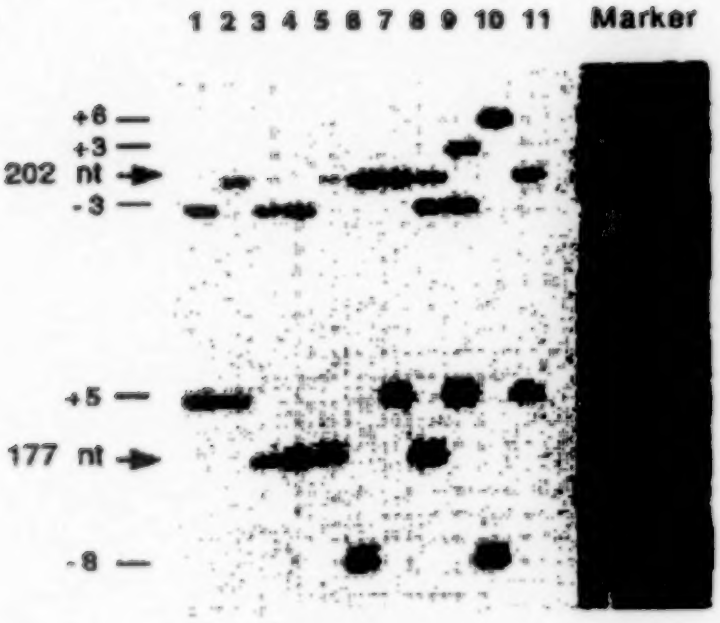

FIG.3

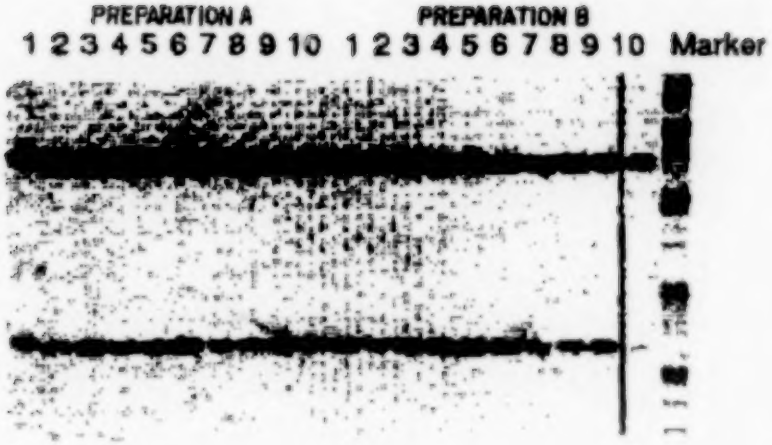
PREPARATION A
PREPARATION B
1 2 3 4 5 6 7 8 9 10 1 2 3 4 5 6 7 8 9 10 Marker

FIG.4

5'-CTCCCCCACACAAAGAAGTTCTGTTCTCTTCCCTCTACCTTGAT

GAATGCACTGTGA $(TG)_{15-23}$ACTCGTTCCCAGGTATGGAA-3'

(SEQ ID NO:6)

FIGURE 5

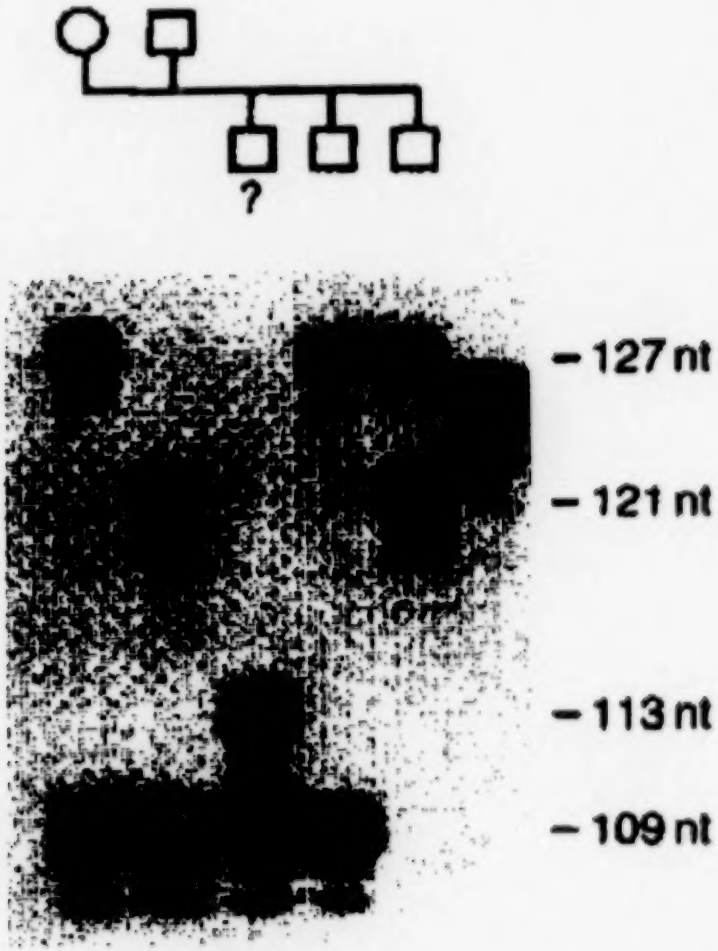

FIG.6

PROCESS FOR ANALYZING LENGTH POLYMORPHISMS IN DNA REGIONS

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates the additions made by reissue.

This application is *a reissue application of U.S. Pat. No. 5,766,847, issued Jun. 16, 1998 from application Ser. No. 08/145,617, filed Nov. 4, 1993, which is* a continuation of [application Ser.] *application* No. 07/681,494 filed on Jun. 10, 1991, now abandoned. *Application Ser. No. 07/681,494 is the national stage under 35 U.S.C. §371 of International Application PCT/EP89/01203, filed Oct. 11, 1989 and designating the United States.*

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention relates to a process for determining identity and kinship of organisms on the basis of length polymorphisms in the regions of simple or cryptically simple DNA sequences.

2. Description of Related Art

All usual processes for the determination of identity and kinship on the basis of DNA length polymorphisms are based on the use of restriction endonucleases. Thereby specific DNA fragments are prepared which are afterwards detected by means of hybridization methods. With these methods either variations in length which have formed between the corresponding recognition sites for restriction endonucleases or variations in length which, have formed due to the lack of certain restriction cleavage sites are analyzed. The first type of polymorphism analysis reveals the variation in length in so-called minisatellite regions (**3**, **4**, **4a**, **4b**) and/or in regions with specific simple DNA sequences (**5**). The second analysis in which restriction fragment length polymorphisms (RFLP) due to the presence or absence of a restriction site, are detected can be applied only in specific, empirically found cases and can substantially be used appropriately only in the analysis of genetic diseases.

The disadvantage of both known methods lies in the fact that a hybridization reaction has to be carried out to make the length polymorphic regions visible. This makes the methods time-consuming and expensive. Furthermore, a single analysis using the previous methods does normally not allow any definitive conclusion about the relationship of two samples to be made so that additionally a second independent analysis becomes necessary. Therefore, these processes are not very appropriate for serial examinations and routine testing. Furthermore, the described method are not suitable for automation.

Higuchi et al. (**5a**) describe a further process for analyzing a length polymorphic locus, comprising a primer-controlled polymerization reaction of certain mitochondrial DNA sequences. This process cannot be used for paternity determination due to the mitochondrial markers used thereby.

Thus, it is the object of the present invention to provide a method for analyzing length polymorphisms in DNA regions which is highly sensitive, achieves reliable results without being time-consuming, is furthermore appropriate for serial examinations and routine testing and can optionally also be carried out automatically.

According to the invention this problem is solved by providing a process for determining identity and kinship of

organisms on the basis of length polymorphisms in DNA regions, which process comprises the following steps:

(a) annealing at least one primer pair to the DNA to be analyzed, wherein one of the molecules of the primer pair is substantially complementary to one of the complementary strands of the DNA flanking a simple or cryptically simple DNA sequence on either the 5' or the 3' side, and wherein the annealing occurs in such an orientation that the synthesis products obtained by a primer-directed polymerization reaction with one of said primers can serve as template for annealing the other primer after denaturation;

(b) primer-directed polymerase chain reaction; and

(c) separating and analyzing the polymerase chain reaction products.

In this process the individual primer molecules of the primer pairs are annealed to the DNA region to be analyzed at a distance of 50 to 500 nucleotides apart so that they encompass it at the given distance. Thereby the DNA region to be analyzed is surrounded by the hybridization molecules of the primer pair.

The primer-directed chain reaction is known as such from EP-A2 0 200 362 (**1**), from EP-A1 0 237 362 (**1a**) and from (**2**). It refers to a process for amplification of specific DNA fragments in which a PCR (polymerase chain reaction) is carried out. In this process the specific amplification is achieved by using oligonucleotide primers flanking the target-molecule in an anti-parallel manner. Thereby in a template-dependent extension of the primers by a polymerase DNA fragments are synthesized which themselves are again available as templates for a new cycle of primer extension. The DNA synthesis is performed by heat denaturation of the starting molecules, followed by hybridization of the corresponding primers and by chain extension with a polymerase. By means of a further heat denaturation a following cycle is then performed. Thereby the specifically amplified region grows in an exponential way and finally a fragment detectable by normal gel electrophoresis is formed. The length of this fragment is determined by the length of the primers and the intermediate region and is similar or equal to the sum of the lengths of the primers and the intermediate region. The use of thermostable synthesis components allows control of the process by simple and easily automated heating and cooling cycles.

By "antiparallel flanking" of the target molecule by oligonucleotide primers one understands the hybridizing of one of both primers of a primer pair each to the complementary strands of the target molecule so that the 3' ends of the primer pair point at each other.

In (**15**) Marx describes different applications of the PCR process.

Rollo et al. describe in (**16**) the use of the PCR process for distinguishing between various species of the plant pathogenic fungus Plasma.

The use of simple and cryptically simple DNA sequences in the fragment of PCR processes for determining identity and kinship of organisms is not described in any of these references.

SUMMARY OF THE INVENTION

Simple and cryptically simple DNA sequences are repetitive components of all eukaryotic genomes which to some extent can be found also in prokaryotic genomes (**6–9**). Thereby simple DNA sequences comprise short DNA motifs containing at least one nucleotide and not more than approximately 6 to 10 nucleotides arranged as a dozen to

approximately one hundred tandem repeats. These simple DNA sequences have been found by hybridization with synthetic DNA sequences and by direct sequencing in all hitherto analyzed eukaryotic genomes and also in the human genome (8, 10). All possible permutations of short motifs can presumably be found therein in different frequency (9). Cryptically simple DNA sequences are characterized by a more than accidentally frequent, but irregularly direct repeat of short DNA motifs (9). Cryptically simple DNA sequences are normally only found indirectly in already sequenced DNA regions by means of a corresponding computer programme. They are, however, at least just as frequent or even more frequent than simple DNA sequences. The simple and cryptically simple DNA sequences are likely to have formed by genomic mechanisms having the tendency to duplicate once more already existing short duplications of any DNA sequence motifs or to partly delete in any DNA sequence motifs longer regions of already existing simple or cryptically simple DNA sequences (8–10). Therefore one can start from the assumption that these regions are usually length polymorphic. The process according to the invention is based on this length polymorphism.

Simple or cryptically simple DNA sequences that are suitable for the process according to the invention can be found with or without a computer programme in DNA sequences that are already known (9). A simple or cryptically simple DNA sequence is suitable for use in the method of the present invention if it has a length of approximately 20 to 300 nucleotides and if it is flanked by random sequences, i.e. DNA sequences without internal repeats. From the region of DNA sequences without internal sequence repeats fragments that flank the simple or cryptically simple DNA sequence are selected. Suitable complementary synthetic oligonucleotides are then prepared which can hybridize to the flanking DNA sequences. An oligonucleotide is suitable for this purpose if its nucleotide composition and its nucleotide sequence can be found most probably only once in the genome to be examined, thus being specific to the DNA region to be individually analyzed.

In the process according to the invention, preferably length polymorphisms of simple or cryptically simple DNA sequences are examined.

When examining length polymorphisms of simple or cryptically simple DNA sequences substantially composed of tri-nucleotide motifs, so-called "slippage"-artifacts are avoided. Slippage-artifacts are more frequently found, for example, in simple or cryptically simple DNA sequences composed of dinucleotide motifs. Thereby reaction products are formed which are shorter than the desired main product (cf. Example 4). These artificial bands are possibly difficult to distinguish from "real" bands which complicates the interpretation of the results. When using simple or cryptically simple tri-nucleotide sequences, these artifacts do not or only rarely occur (cf. Example 3).

In a particularly preferred embodiment of the process according to the invention the simple or cryptically simple DNA sequence is substantially composed of the trinucleotide motif 5'CAG-3' 5'CTG-3'.

In the process according to the invention two primer pairs are preferably employed. In a particularly preferred embodiment 2 to 50 primer pairs are employed.

Preferably the primers used in the process according to the invention have a length of 15 to 25 nucleotides.

In a preferred embodiment of the process according to the invention when using several primer pairs the individual primer pairs are selected in such a way that the corresponding specific polymerase chain reaction products of the individual primer pairs are separable into individual bands on a suitable gel.

In another preferred embodiment of the process according to the invention the detection of the specific polymerase chain reaction products is carried out by radioactive labelling or by non-radioactive labelling, e.g. with fluorescent dye-stuff.

The labelling of the oligonucleotide pairs can be carried out radioactively or with a fluorescent dyestuff, as described in (12).

Furthermore, kits with which the process according to the invention can be carried out are a subject matter of the present invention. The primers contained therein are optionally labelled radioactively, e.g. with ^{35}S or ^{14}C, or fluorescently.

The synthesis products obtained in the process according to the invention can be separated using high-resolution gel systems, such as usual sequencing gels. At the same time also the length of the synthesis products can be determined. Polymorphisms which are formed by insertions or deletions of individual or several motifs of the simple or cryptically simple DNA sequence are recognizable by an altered position of the synthesis products in the gel. With an appropriate selection of the primer pairs and with an appropriate resolution capacity of the gel system approximately 20 to 50 independent polymorphic regions can be simultaneously examined. Thus, the identity of an individual can be reliably ascertained due to the individual combination of length distributions of the synthesis products obtained.

If no appropriate simple or cryptically simple DNA sequences are known in the DNA regions to be examined, they can be identified as follows:

A genomic DNA to be examined is subjected to a partial restriction cleavage. Restriction enzymes are used that do normally not cleave in simple or cryptically simple DNA sequences. The DNA fragments obtained are cloned in a suitable vector, e.g. in lambda phage derivatives or in M13-phages and are then screened by usual methods for simple or cryptically simple DNA sequences; cf. (11). The probe molecules used are synthetic DNA molecules containing various permutations of simple or cryptically simple DNA sequences. Thus, hybridizing plaques can be identified. Then the recombinant DNA contained therein can be isolated and characterized by sequencing. The DNA sequence thus obtained can then be screened for DNA sequences which are suitable for the testing procedure according to the invention.

The process according to the invention was carried out with Drosophila-DNA as a model system. As simple and cryptically simple DNA sequences are present in all eukaryotic genomes and to some extent also in prokaryotic genomes, one can assume that the results achieved with the Drosophila model system can also be achieved in the analysis of other genomes, particularly in the examination of the human genome.

Therefore the process according to the invention is suitable for the determination of identity and kinship of organisms, for example of human beings.

In human beings paternity and forensic tests for establishing the identity of delinquents can be carried out with the process according to the invention, cf. also Example 4.

In addition to the determination of identity of individuals the process is also suitable to determine the course of

hereditary propagation of genetic diseases for which the locus is known and sequenced. For this purpose one or several simple or cryptically simple sequences are selected which are located in or next to the locus to be analyzed. The specific length pattern of these regions is correlated with the mutated locus, as is common practice with known RFLP-markers; cf. (14). With the families concerned on the basis of this information genetic advice can be given or prenatal diagnosis can be made in a manner analogous to that known for RFLP-markers. The use of the process according to the invention for this purpose makes sense especially because it is based on DNA regions which are polymorphic in all foreseeable probability whereas the RFLP-analysis is dependent on accidentally found variations which are often far away from the locus itself which reduces the certainty of diagnosis.

The process according to the invention is further suitable for determining polymorphisms in simple or cryptically simple DNA sequences of animals and plants. Therefore, in animal breeding, e.g. of horses, dogs or cattle, and kinship to high-grade breeding individuals can be reliably proved.

To sum up, it can be said that the advantage of the process according to the invention vis-a-vis the hitherto known processes lies in its broad applicability, rapid practicability and in its high sensitivity. The amplification step taken for the length polymorphic simple or cryptically simple DNA sequences in the process according to the invention makes it superfluous to take an independent ascertaining step, such as a subsequent hybridization reaction. Therefore the process according to the invention is particularly well suited for automation and for routine testing and serial examination.

BRIEF DESCRIPTION OF THE DRAWINGS

The Figures show:

FIG. 1: Hybridization of a Gene Library with a simple DNA sequence as probe molecule.

Approximately 20,000 independent phage clones were plated out on a 12 by 12 cm plate and hybridized with a probe molecule containing the simple trinucleotide sequence CAG/CTG. 300 to 400 positive signals are thus obtained. The positive signals are recognizable as blackening.

FIG. 2: Sequence (SEQ. ID NO. 5) of the region tested for polymorphism in Example 2.

The regions to which complementary oligonucleotides were synthesized are underlined with a wavy line. The region of the simple DNA sequence is underlined with a double line. The direct repeat of 8 nucleotides is marked with two arrows. The HaeIII-cleavage site is marked in italics.

FIG. 3: Analysis of the length variations of 11 wild type strains in Drosophila

The DNA sequences amplified by means of PCR and cleaved with HaeIII are shown in lanes 1 to 11. On the right side a sequencing reaction is shown serving as length marker. The position of the fragments to be expected is marked with arrows on the left side. The positions of the fragment classes additionally observed is marked with lines.

FIG. 4: Test for Reproducibility

Ten independent PCR-reaction mixtures using the DNA preparation "A" of the Drosophila strain No. 3 were applied on the left side, ten independent PCR-reaction mixtures using the DNA preparation "B" of the Drosophila strain No. 3 were applied on the right side. On the very right side marker fragments from a sequencing reaction are applied. All test bands observed are identical.

FIG. 5: Sequence (SEQ IN NO. 6) of the DNA region used in Example 4.

The regions to which complementary oligonucleotides were synthesized are underlined with a wavy line.

FIG. 6: Paternity analysis in human beings.

The DNA fragments amplified by means of PCR and separated on the gel are shown. In the first lane the DNA of the mother, in the following lanes the DNA of the father to be tested as well as of the three tested children have been applied. In the sixth lane (marked with "C") a control-DNA has been applied which is to indicate only the size categories. The main bands and their size categories are marked on the right side.

DETAILED DESCRIPTION OF THE INVENTION

The examples illustrate the invention.

EXAMPLE 1

Isolation of Clones Containing Simple DNA Sequences

Drosophila-DNA is completely cleaved with the restriction endonuclease EcoRI and the resulting fragments are cloned into the lambda vector 641. A more detailed description of the methods used can be found in (11). By this way a gene library is obtained of which about 20,000 phages are plated out. The corresponding independent plaques are transferred to a nitrocellulose filter and hybridized with a probe molecule containing the simple DNA sequence motif CAG/CTG.

The filters are hybridized and washed at 65° C. The hybridizing solution contains 5 × SSPE, 5 × Denhardt's solution, 0.1% sodium dodecyl sulfate (SDS) and approximately 1×10^6 cpm/ml of radioactively labelled (^{32}P) DNA as probe molecule. The wash solution contains 2 × SSPE and 0.1% SDS (the reaction product of Denhardt's solution and SSPE is described in (11)).

About 300 to 400 of the plaques formed show a positive signal; cf. FIG. 1. Some of these plaques are purified, DNA is isolated and sequenced. In the obtained DNA sequences regions can be identified containing the simple DNA sequence CAG/CTG; cf. (7).

EXAMPLE 2

Detection of Length Polymorphisms

For this experiment the DNA sequence illustrated in FIG. 2 and published in (13) was chosen. Two oligonucleotides with the following sequences were synthesized:

Oligonucleotide 1 (SEQ. ID No. 1): 5'-TAAGCTT GGGAATCA-3'

Oligonucleotide 2 (SEQ. ID No. 2): 5'-ATTGAAC TTTGTATC-3'

These DNA sequences are located immediately at the beginning or at the end of the sequence shown in FIG. 2. For use as primers the synthesized oligonucleotides are labelled with ^{32}P at their 5' end. Then a PCR reaction with the labelled primers is carried out. On the whole 20 cycles are carried out by denaturating at 95° C. for 90 seconds, hybridizing at 45° C. for 90 seconds and then synthesizing at 72° C. for 120 seconds. As DNAs to be examined the genomic DNAs of 11 wild type strains of Drosophila melanogaster from various regions all over the world are employed. These Drosophila wild type strains originally are

descendants of individual fertilized females and have been collected during the last 10 years. After the PCR reaction the amplified fragments are cleaved with the restriction endonuclease HaeIII. This should normally yield two fragments having a length of 202 and 177 nucleotides, respectively. This step is normally not necessary for routine experiments. Here it only serves to refine the analysis. The resulting fragments are separated on a 5% sequencing gel, the gel is subsequently dried and an X-ray film is exposed to the dried gel. Both DNA fragments expected show a marked polymorphism in the various Drosophila wild type strains. The 202 nucleotide fragment which contains the simple DNA sequence shows four different size categories; see FIG. 3. These size categories are shifted by three nucleotides each. Starting from frameshifts within the repeat of the trinucleotides this is to be expected. In three cases two different bands appear at the same time; cf. FIG. 3, lanes 5, 8 and 9. This can be explained by the fact that in diploid organisms each locus is to be found twice and can be represented by different alleles (so-called balanced polymorphism). The band of the 177 nucleotide fragment shows three different size categories being 5 or 8 nucleotides apart; cf. FIG. 3. The band which is shorter by 8 nucleotides presumably resulted from a deletion of the repeat of 8 nucleotides labelled in the DNA sequence. The origin of the longer band is unclear. These deletions or insertions correspond to those that can be expected in the region of a cryptically simple DNA sequence.

The majority of the strains examined in this simple experiment are readily distinguishable from one another. Only strains 2, 7 and 11 as well as 3 and 4 cannot be distinguished from each other. To distinguish these strains one would therefore employ further primer pairs. For example, 20 to 50 independent DNA regions could be tested, in order to allow a definite identification. As the size categories of the fragments of the individual Drosophila wild type strains are homogenous per se, one has to start from the assumption that the polymorphisms observed are not so frequent that it would no longer be possible to ascertain a kinship. The Drosophila wild type strains all descend from one single original pair and the DNA of several 100 individuals was combined for the test. If a change of the pattern had taken place within these "families", one should expect more than maximal two bands. This is, however, not the case here. From this follows that the length categories observed are stable for at least some dozens of generations.

EXAMPLE 3

Test for Reproducibility

The variations in length observed could also be caused by polymerase errors during the experiment. In order to exclude this possibility and to simultaneously prove the general reproducibility, the experiment carried out in Example 2 is repeated with two different DNA preparations of the Drosophila strains No. 3 in 10 independent reaction mixtures. It can be taken from FIG. 4 that all reaction mixtures lead to the same bands. Similar experiments were also carried out for different loci. In no case, however, a change of the band length could be observed. This shows that the process is reliably reproducible.

EXAMPLE 4

Paternity Test in Human Beings

A primer pair is used which flanks a sequential region from the autosomal human heart muscle actin gene. This sequence contains a simple sequence with a GT/CA dinucleotide repeat structure (FIG. 5). As primers the following oligonucleotides are used:

Primer 1 (SEQ ID No. 3): 5'-CTCCCCC ACACAAAGAAG-3'

Primer 2 (SEQ ID No. 4): 5'-TTCCATA CCTGGGAACGA-3'

Primer 2 is labelled at its 5' end with ^{32}P and both oligonucleotides are then used for a PCR reaction. On the whole 25 cycles with a denaturation phase of 1 min. at 94° C., an hybridizing phase of 2 min. at 45° C. and a synthesis phase of 1 min at 72° C. (last synthesis phase for 5 min) are carried out. The reaction products are then separated on a 6% denaturating acrylamide gel, the gel is dried and exposed. The result can be seen in FIG. 6. Each of the tested individuals shows two main bands (for explanation of the further bands, see below), i.e. it is heterozygous for different length variants of this locus. Mother and father have the length variant "109 nt" in common, they do, however, differ in the other variant, with the mother having a "127 nt" and the father a "121 nt" variant. The children must have inherited one of each of these variants from father and mother. For two of the children this is actually the case, whereas the third child (labelled with "?") shows a new "113 nt" variant, which can neither be derived from the mother nor from the tested father. Therefore, one has to assume that this child had another father.

In lane "C" a cloned control-DNA having only one length variant has also been treated. Like the other samples it shows a main band and several secondary bands. The secondary bands are caused by PCR artifacts formed during the amplification. In this context, there are two types of artifacts. The first type results from the fact that the Taq-polymerase has the tendency to attach an additional nucleotide to the completely synthesized DNA strand. Thereby the band is formed which runs a nucleotide above the main band. This effect varies from reaction to reaction, but does not disturb the analysis of the band pattern. A second type of artifact is formed by "slippage" during the amplification process. This leads to the bands which can be seen at the dinucleotide distance below the main bands. These artifact bands could have a disturbing effect on the analysis, if they overlap actual length variants.

Simple sequences with trinucleotide repeat motifs do not show these artifact bands (cf. Example 2), as with these sequences "slippage" occurs less frequently during amplification.

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SEQUENCE LISTING

(1) GENERAL INFORMATION:

(iii) NUMBER OF SEQUENCES: 6

(2) INFORMATION FOR SEQ ID NO: 1:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

TAAGCTTGGG AATCA 15

(2) INFORMATION FOR SEQ ID NO: 2:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

ATTGAACTTT GTATC 15

(2) INFORMATION FOR SEQ ID NO: 3:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

CTCCCCCACA CAAAGAAG 18

(2) INFORMATION FOR SEQ ID NO: 4:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 18 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

TTCCATACCT GGGAACGA 18

-continued

(2) INFORMATION FOR SEQ ID NO: 5:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 379 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

TAAGCTTGGG AATCATCTCG CCGACGGGCA GCGATATGGG CATCATGCTC GCCCCGCCCC 60

AATCCTCGAA GAATAGTGCA ATAATGCAAA CGATATCACC CCAGCAACAG CAGCAGCAGC 120

AGCAGCAGCA ACAGCAGCAA CATCAGCAGC AGCAACAGCA GCAGCAACAG CAGCAGCAGC 180

AACAGCAGCA GCAACTCGGA GGCCTGGAGT TCGGTTCAGA GGGCTTGGAC CTGAATGGAT 240

TTTGTGGATC TCCGGGTAAG TGGTCACTCA TGATGGACTC TATGGACTCG CTAACTAGCT 300

AACTAATCAT TCTACCATCC CAACTTGCAG ACTCATTTCA CTCGGGTCAA ATGAATCCGC 360

CCTCGATACA AAGTTCAAT 379

(2) INFORMATION FOR SEQ ID NO: 6:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 107 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:
(A) NAME/KEY: repeat_region
(B) LOCATION: 58..87
(D) OTHER INFORMATION: /rpt_type= "other"
/label= tg_DINUCLEOTIDE

(ix) FEATURE:
(A) NAME/KEY: -
(B) LOCATION: 58..87
(D) OTHER INFORMATION: /label= TG_DINUCLEOTIDE
/note= "THIS STRETCH OF TG DINUCLEOTIDES RANGES IN
SIZE FROM 15 DINUCLEOTIDES TO 25 DINUCLEOTIDES
((TG)15 TO 25)"

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

CTCCCCCACA CAAAGAAGTT CTGTTCTCTT CCCTCTACCT TGATGAATGC ACTGTGATGT 60

GTGTGTGTGT GTGTGTGTGT GTGTGTGACT CGTTCCCAGG TATGGAA 107

We claim:

1. A method for determining length polymorphisms in a simple or cryptically simple sequence in one or more DNA regions of one or more subjects, which comprises:

a) providing at least one DNA sample, comprising a template DNA having a nucleotide sequence that includes a simple or cryptically simple sequence *comprising trinucleotide repeats*, from at least one subject;

b) annealing at least one primer pair to the template DNA of each of said DNA samples, wherein said primer pair is composed of a first primer complementary to a nucleotide sequence flanking the simple or cryptically simple DNA sequence on the 5' side of said simple or cryptically simple DNA sequence and a second primer complementary to a nucleotide sequence flanking the simple or cryptically simple DNA sequence on the 3' side of said simple or cryptically simple DNA sequence, wherein said first and second primers each anneal to a single site in said template DNA and the sequence of the template DNA between the sites where said primers anneal is 50 to 500 nucleotides in length;

c) performing at least one primer-directed polymerase chain reaction upon said template DNA having said primers annealed thereto, so as to form at least one polymerase chain reaction product;

d) separating the products of each polymerase chain reaction according to their lengths; *and*

e) analyzing the *lengths of the* separated products to determine the length polymorphisms of the simple or cryptically simple sequences.

[2. The method according to claim 1, wherein each simple or cryptically simple DNA sequence comprises at least one trinucleotide motif.]

3. The method according to claim 1, wherein [each simple or cryptically simple DNA sequence contains] the *trinucleotide repeat* motif *is* CAG/CTG.

4. The method according to claim 1, wherein at least 2 primer pairs are used.

5. The method according to claim 1, wherein between 2 and 50 primer pairs are used.

6. The method according to claim 1, wherein each of the primers has a length ranging between 15 and 25 nucleotides.

7. The method according to claim [2] *1*, wherein the annealing position of the primers of each pair is selected such that each of the primer-directed polymerase chain reaction products are separable one from the other as individual bands on a suitable electrophoretic gel.

8. The method according to claim 1, wherein the product of each primer-directed polymerase chain reaction is labelled by a radioactive label.

9. The method according to claim 1, wherein the product of each primer-directed polymerase chain reaction is labelled by a non-radioactive label.

10. The method according to claim 9, wherein said non-radioactive label is a fluorescent label.

11. The method according to claim 1, wherein said simple or cryptically simple DNA sequence is located adjacent to or within a genetically defined locus such that said simple or cryptically simple DNA sequence can serve as a marker for said locus.

12. A kit for performing the method of claim 1, comprising:

a) at least one vessel containing an equimolar mixture of primers constituting between 1 and 50 of said primer pairs;

b) a vessel containing a polymerizing enzyme suitable for performing a primer-directed polymerase chain reaction;

c) a vessel containing the deoxynucleotide triphosphates adenosine, guanine, cytosine and thymidine;

d) a vessel containing a buffer solution suitable for performing a polymerase chain reaction, or a concentrate of said buffer solution;

e) a vessel containing a template DNA that has a nucleotide sequence including a simple or cryptically simple sequence for assaying positive performance of the method, *wherein each simple or cryptically simple DNA sequence comprises at least one trinucleotide motif.*

13. The kit of claim 12, wherein at least one primer of each primer pair is labelled with a fluorescent or a radioactive label.

14. The method of claim 1, wherein the kinship of at least two subjects is determined by comparing length polymorphisms determined in step (e).

15. A method for analyzing length polymorphisms in at least one locus in an DNA sample obtained from at least one subject, wherein said DNA sample comprises a DNA template having at least one locus comprising a simple or cryptically simple DNA sequence, said method comprising:

a) annealing said DNA template with at least one pair of primers, wherein said primer pair is composed of a first primer complementary to a nucleotide sequence flanking said simple or cryptically simple DNA sequence on the 5' side of said simple or cryptically simple DNA sequence and a second primer complementary to a nucleotide sequence flanking the simple or cryptically simple DNA sequence on the 3' side of said simple or cryptically simple DNA sequence, wherein said first and second primers each anneal to a single site in said DNA template and wherein the annealing sites are separated by 50 to 500 nucleotides of template DNA;

b) performing at least one primer-directed polymerase chain reaction upon said template DNA having said primers annealed thereto, so as to form at least one polymerase chain reaction product;

c) separating the products of each polymerase chain reaction according to their lengths; and

d) analyzing the lengths of the separated products to determine the length polymorphisms of said simple or cryptically simple sequences;

wherein said simple or cryptically simple sequence has a repeat length of 3 to 10 nucleotides.

16. The method of claim 15, wherein said simple or cryptically simple sequence has a repeat length of 3 to 6 nucleotides.

17. The method of claim 15, wherein said simple or cryptically simple sequence has a repeat length of 3 nucleotides.

18. The method of claim 15, wherein at least two primer pairs are used.

19. The method of claim 15, wherein the kinship of at least two subjects is determined by comparing the length polymorphisms determined in step (d).

20. The method of claim 16, wherein the kinship of at least two subjects is determined by comparing the length polymorphisms determined in step (d).

21. The method of claim 15, further comprising (e) comparing the length polymorphisms determined in step (d) to numerical values of length polymorphisms for said at least one locus.

22. The method of claim 16, further comprising (e) comparing the length polymorphisms determined in step (d) to numerical values of length polymorphisms for said at least one locus.

23. The method of claim 15, wherein 2 to 50 primer pairs are used.

24. The method according to claim 15, wherein each of the primers has a length of 15 to 25 nucleotides.

25. The method according to claim 15, wherein the annealing position of the primers of each pair is selected such that each of the products of the primer-directed polymerase chain reaction is separable one from the other as individual bands on a suitable electrophoretic gel.

26. The method according to claim 15, wherein the product of each primer-directed polymerase chain reaction is labeled by a radioactive label.

27. The method according to claim 15, wherein the product of each primer-directed polymerase chain reaction is labeled by a non-radioactive label.

28. The method according to claim 27, wherein said non-radioactive label is a fluorescent label.

29. The method according to claim 15, wherein said simple or cryptically simple DNA sequence is located adjacent to or within a genetically defined locus such that said simple or cryptically simple DNA sequence can serve as a marker for said locus.

30. The method of claim 15, wherein said simple or cryptically simple sequence has a repeat length of 3 to 6 nucleotides, each of said primers has a length of 15 to 25 nucleotides and the kinship of at least two subjects is determined by comparing the length polymorphisms determined in step (d).

31. The method of claim 15, wherein said simple or cryptically simple sequence has a repeat length of 3 to 6 nucleotides, each of said primers has a length of 15 to 25 nucleotides and wherein 2 to 50 primer pairs are used.

32. The method of claim 29, wherein said simple or cryptically simple sequence has a repeat length of 3 to 6 nucleotides, each of said primers has a length of 15 to 25 nucleotides and 2 to 50 primer pairs are used.

33. The method of claim 30, wherein said simple or cryptically simple sequence has a repeat length of 3 nucleotides.

34. The method of claim 32, wherein said simple or cryptically simple sequence has a repeat length of 3 nucleotides.

35. A kit for performing analysis of polymorphism in simple or cryptically simple sequences, comprising:

a) at least one vessel containing a mixture of primers constituting 1 to 50 primer pairs; wherein each of said primer pairs is composed of a first primer complementary to a nucleotide sequence flanking said simple or cryptically simple DNA sequence on the 5' side of said simple or cryptically simple DNA sequence and a second primer complementary to a nucleotide sequence flanking the simple or cryptically simple DNA sequence on the 3' side of said simple or cryptically simple DNA sequence; wherein said first and second primers each anneal to a single site in said DNA template and wherein the annealing sites are separated by 50 to 500 nucleotides of template DNA;

b) a vessel containing a template DNA that has a nucleotide sequence including a simple or cryptically simple sequence for assaying positive performance of the method.

36. The kit of claim 35, wherein at least one primer of each primer pair is labeled with a fluorescent or a radioactive label.

37. The kit of claim 35, wherein said simple or cryptically simple sequence has a repeat length of 3 to 6 nucleotides and each of said primers has a length of 15 to 25 nucleotides.

38. The kit of claim 35, wherein said simple or cryptically simple DNA sequence is located adjacent to or within a genetically defined locus such that said simple or cryptically simple DNA sequence can serve as a marker for said locus.

39. The kit of claim 38, wherein at least one primer of each primer pair is labeled with a fluorescent or a radioactive label.

40. A method for determining length polymorphisms in a simple or cryptically simple sequence in one or more DNA regions of one or more subjects, which comprises:

a) providing at least one DNA sample, comprising a template DNA consisting essentially of a nucleotide sequence that includes i) a simple or cryptically simple sequence having a trinucleotide repeat motif and ii) nucleotide sequences flanking the simple or cryptically simple sequence, from at least one subject;

b) annealing at least one primer pair to the template DNA of each of said DNA samples, wherein said primer pair is composed of a first primer complementary to the nucleotide sequence flanking the simple or cryptically simple DNA sequence on the 5' side of said simple or cryptically simple DNA sequence and a second primer complementary to the nucleotide sequence flanking the simple or cryptically simple DNA sequence on the 3' side of said simple or cryptically simple DNA sequence; wherein said first and second primers each anneal to a single site in said template DNA and the sequence of the template DNA between the sites where said primers anneal is 50 to 500 nucleotides in length;

c) performing at least one primer-directed polymerase chain reaction upon said template DNA having said primers annealed thereto, so as to form at least one polymerase chain reaction product;

d) separating the products of each polymerase chain reaction according to their lengths;

e) analyzing the lengths of the separated products to determine the length polymorphisms of the simple or cryptically simple sequences.

41. A method for analyzing polymorphism in at least one locus in an DNA sample comprising a DNA template, said method comprising:

a) annealing said DNA template with at least one pair of primers, wherein said primer pair is composed of a first primer complementary to a nucleotide sequence flanking said simple or cryptically simple DNA sequence on the 5' side of said simple or cryptically simple DNA sequence and a second primer complementary to a nucleotide sequence flanking the simple or cryptically simple DNA sequence on the 3' side of said simple or cryptically simple DNA sequence; wherein said first and second primers each anneal to a single site in said DNA template and wherein the annealing sites are separated by 50 to 500 nucleotides of template DNA;

b) performing at least one primer-directed polymerase chain reaction upon said template DNA having said primers annealed thereto, so as to form at least one polymerase chain reaction product;

c) separating the products of each polymerase chain reaction product according to their lengths; and

d) analyzing the lengths of the separated products to determine the length polymorphisms of said simple or cryptically simple sequences,

wherein said DNA template includes at least one sequence consisting essentially of a simple or cryptically simple DNA sequence having a repeat motif length of 3 to 10 nucleotides and nucleotide sequences flanking said simple or cryptically simple DNA sequence effective for annealing said at least one pair of primers.

42. A kit for analyzing polymorphism in at least one locus in an DNA sample, comprising:

a) at least one vessel containing a mixture of primers constituting between 1 and 50 of said primer pairs;

b) a vessel containing a polymerizing enzyme suitable for performing a primer-directed polymerase chain reaction;

c) a vessel containing the deoxynucleotide triphosphates adenosine, guanine, cytosine and thymidine;

d) a vessel containing a buffer solution for performing a polymerase chain reaction;

e) a vessel containing a template DNA comprising i) a simple or cryptically simple nucleotide sequence having a repeat motif length of 3 to 10 nucleotides and ii) nucleotide sequences flanking said simple or cryptically simple nucleotide sequence that are effective for annealing at least one pair of said primers, for assaying positive performance of the method.

* * * * *

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

10-cv-281-bbc

PROMEGA CORPORATION,

Plaintiff,

and

MAX-PLANCK-GESELLSCHAFT zur
FORDERUNG der WISSENSCHAFTEN E.V.,

Involuntary Plaintiff,

v.

LIFE TECHNOLOGIES CORPORATION,
INVITROGEN IP HOLDINGS, INC. and
APPLIED BIOSYSTEMS, LLC,

Defendants.

OPINION AND ORDER

* * * *

it is entitled to judgment as a matter of law on this issue. "'[W]illful' action is quintessentially a question of fact, for it depends on findings of culpable intent and deliberate or negligent wrongdoing." *Biotec Biologische Naturverpackungen GmbH & Co. KG v. Biocorp, Inc.*, 249 F.3d 1341, 1356 (Fed. Cir. 2001). In fact, plaintiff cites no cases in which a court concluded that the plaintiff was entitled to summary judgment on willfulness. Perhaps more important, plaintiff's argument on willfulness is undeveloped, making up a page of their opening brief and consisting of little more than a few quotations from documents prepared by

one employee of defendants. This is insufficient to show as a matter of law that plaintiff is entitled to a finding of willfulness.

ORDER

IT IS ORDERED that

1. The motion for partial summary judgment filed by defendants Life Technologies Corporation, Invitrogen IP Holdings, Inc. and Applied Biosystems, LLC, dkt. #234, is GRANTED with respect to plaintiff Promega Corporation's claim of infringement of claims 25 and 27-31 of U.S. Patent No. 5,843,660 and defendants' counterclaims for noninfringement of the same claims. Plaintiff's complaint is DISMISSED as to those claims. Defendants' motion is DENIED in all other respects.

2. Plaintiff's motion for summary judgment, dkt. #227, is GRANTED with respect to the following claims of infringement:

- AmpF1STR COfiler PCR Ampliflication Kit infringes claims 23 and 27 of U.S. Patent No.6,221,598 and claim 42 of U.S. Patent No. Re 37,984;
- AmpF1STR Profiler PCR Amplification Kit infringes claims 10, 23-24, 27 and 33 of the '598 patent and claim 42 of the '984 patent;
- AmpF1STR Identifiler PCR Amplification Kit infringes claims 10, 23-24 and 27 of the '598 patent, claims 18-19 and 21-23 of U.S. Patent No. 6,479,235, claim 5 of U.S. Patent No. 7,008,771 and claim 42 of the '984 patent;
- AmpF1STR Profiler Plus PCR Amplification Kit infringes claim 42 of the '984 patent; and

- AmpF1STR Yfiler PCR Amplification Kit infringes claim 42 of the '984 patent.

The motion is DENIED as to all other claims of infringement and inducing infringement.

2. Plaintiff's motion for summary judgment, dkt. #227, is GRANTED with respect to defendants' affirmative defenses and counterclaims that the '235, '598, '660 and '771 patents are invalid because they are anticipated, obvious or not enabled. Plaintiff's motion is DENIED with respect to its claim of willfulness.

3. Plaintiff's motion to disregard facts not included in the proposed findings of fact, dkt. #262, is GRANTED. Plaintiff's motion for leave to file a reply brief in support of that motion, dkt. #293, is DENIED as unnecessary.

Entered this 29th day of November, 2011.

BY THE COURT:
/s/
BARBARA B. CRABB
District Judge

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

10-cv-281-bbc

PROMEGA CORPORATION,

Plaintiff,

and

MAX-PLANCK-GESELLSCHAFT zur
FORDERUNG der WISSENSCHAFTEN E.V.,

Involuntary Plaintiff,

v.

LIFE TECHNOLOGIES CORPORATION,
INVITROGEN IP HOLDINGS, INC. and
APPLIED BIOSYSTEMS, LLC,

Defendants.

OPINION and ORDER

* * * *

12. Plaintiff's motion to "expand summary judgment ruling to new products," dkt. #373, is GRANTED as unopposed. The order dated November 29, 2011, dkt. #345, is AMENDED to grant summary judgment to plaintiff with respect to the following claims of infringement:

a. AB Minifiler PCR Amplification Kit infringes claim 42 of the '984 Patent;

b. AB SGM Plus PCR Amplification Kit infringes claim 42 of the '984 Patent;

c. AB SEfiler Kit infringes claim 42 of the '984 Patent;

d. AB SEfiler Plus Kit infringes claim 42 of the '984 Patent;

e. NGM PCR Amplification Kit (1000 and 200) infringes claim 42 of the '984 Patent;

f. NGM SElect Kit infringes claim 42 of the '984 Patent;

g. Identifiler Plus Kit infringes claim 42 of the '984 Patent, claim 5 of the '771 Patent, claims 18, 19, 21, 22 and 23 of the '235 Patent, claims 10, 23, 24, 27 and 33 of the '598 Patent;

h. Identifiler Direct Kit infringes claim 42 of the '984 Patent, claim 5 of the '771 Patent, claims 18, 19, 21, 22 and 23 of the '235 Patent, claims 10, 23, 24, 27 and 33 of the '598 Patent;

i. AB Green I PCR Amplification Kit infringes claim 42 of the '984 Patent and claims 23 and 27 of the '598 patent;

j. Blue PCR Amplification Kit infringes claim 42 of the '984 Patent; and

k. COfiler + Profiler Plus Kit infringes claim 42 of the '984 and claims 23 and 27 of the '598 Patent.

* * * *

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

10-cv-281-bbc

PROMEGA CORPORATION,

Plaintiff,

and

MAX-PLANCK-GESELLSCHAFT zur
FORDERUNG der WISSENSCHAFTEN E.V.,

Involuntary Plaintiff,

v.

LIFE TECHNOLOGIES CORPORATION,
INVITROGEN IP HOLDINGS, INC. and
APPLIED BIOSYSTEMS, LLC,

Defendants.

ORDER

The parties have agreed that, under the summary judgment opinion, dkt. #345, the Profiler Plus ID infringes claim 42 of U.S. Patent No. Re 37,984. Accordingly, IT IS ORDERED that the order dated November 29, 2011, dkt. #345, is AMENDED to grant summary judgment to plaintiff Promega Corporation with respect to infringement of that product and claim.

Entered this 6th day of February, 2012.

BY THE COURT:
/s/
BARBARA B. CRABB
District Judge

UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

10-CV-281

PROMEGA CORPORATION,

Plaintiff,

MAX-PLANCK-GESELLSCHAFT ZUR FORDERUNG DER WISSENSCHAFTEN E.V.,

Involuntary Plaintiff,

v.

LIFE TECHNOLOGIES CORPORATION, INVITROGEN IP HOLDINGS, INC. and APPLIED BIOSYSTEMS, LLC,

Defendants.

Madison, Wisconsin
February 7, 2012
11:00 a.m.

VOLUME 2-B

STENOGRAPHIC TRANSCRIPT OF SECOND DAY OF JURY TRIAL MORNING SESSION HELD BEFORE THE HONORABLE BARBARA B. CRABB

* * * *

[2] INDEX

PLAINTIFF'S WITNESSES JACK BALLANTYNE

EXAMINATION Direct by Mr. Carroll

PAGES 11-79

* * * *

[34] [A.] . . . And this method is called the *polymerase chain reaction* or PCR. And basically it's an important method by which we can just make copies.

We can take DNA from a sample from any source and we can basically make many many copies of them. We often may refer to this as *molecular Xeroxing*. You know, you're taking – you're Xeroxing the molecules. You're making many many copies. In fact we can make billions of copies of DNA just from a single molecule.

Q. Why would we want to do this as part of the technology?

A. We want to do this as part of the technology because we want to basically create enough DNA to be able to analyze it using biochemistry and chemistry. We just need to amplify. It's called *amplification* as well. It's a method by which we can create enough material to analyze. But at the same time we do a bit of trickery. We can, during this process of increasing the number of copies, we can incorporate some reporter molecules into the newly-formed DNA that we can then identify later on [35] in our analysis.

Q. I think I have a slide of that coming up. But before we go there, can you relate the significance in this slide, Doctor, of the two strands we talked about in the process of what you call a *molecular Xeroxing*, the copying?

A. Yes. What happens in this process, which basically, as I said, uses the basic machinery that nature uses — and I think earlier you did hear the term *DNA polymerase,* an enzyme, a catalyst, that's found in all cells — we will use this in the test tube to create these new molecules of DNA during this molecular Xeroxing process.

So basically, what happens, we can take one molecule of DNA. What happens during this process, this PCR process, one cycle of this process will create two molecules. And what we do is we then do another, a third cycle, and then we double that from two to four, and then we double that four to eight, eight to 16, 16 to 32, and so on, depending on the number of cycles we want. So we can create large numbers of molecules very very quickly by just increasing the numbers of cycle.

* * * *

[36] [A.] . . . And this glove-like structure you see here is a DNA polymerase. This is the polymerase that's going to make the new DNA. So on the left-hand side here you have the DNA that's been made, double helix, and we're going to make — this DNA polymerase is going to help to make the new DNA on this right-hand side here.

In fact what you see is that the building blocks of DNA are being, because we have to use building blocks to make the DNA, you can see that as the new building blocks are being added to the new DNA by the DNA polymerase, a chemical reaction is taking place. That's why you see the light flashing there.

[37] Q. And in this process you end up making a copy of that one strand of DNA, so now you have two?

A. Yes.

Q. Thank you, Doctor. Let's go back to the slide that shows the whole process. When you said that you're doing this molecular Xeroxing and you just keep repeating it, the process that we saw in the video then would go on and on for each set of strands?

A. Yes. The video just showed one strand of DNA. Of course this will go on. First of all, normally we would stop with one strand. And, also, depending on the number of cycles, we then have more and more strands to use to make more copies again. So obviously if we have one copy, we can make two. If we have eight copies, we can make 16. So the further along we are in the cycle, the more of the DNA we have to make new copies. So it's like an amplification reaction. Its often termed *amplification* because we increase the numbers dramatically over time.

Q. And is this a key step in the technology we are going to be talking about today?

A. Yes.

* * * *

[40] Q. Doctor, I'm going to try to put everything together now for the jury in the next slide. Can you talk about using that polymerase reaction, that molecular Xeroxing, together with the particular STRs that you want to amplify and explain how that's done.

A. Yes. So what we have — what this again shows is the same STR that we just described, the 7 repeat unit — see the AATG, AATG, et cetera, that's the 7 — and here's the 8.

So in terms of how this works, in terms of the molecular Xeroxing, requires some reagents, some chemicals that we need to add other than the DNA

polymerase. And there are reagents are chemicals that we call *primers* that are absolutely critical to this whole procedure. And these primers are basically pieces of DNA, basically the other strand of the spaghetti strand, small fragments of DNA that are made in a lab. They are synthesized in a lab and we can add these primers to the actual PCR reaction, so to speak.

[41] Q. Is that the trick that gets you to amplify just what you want?

A. So we have a couple of tricks. One is to use these primers. They are called *primers*. One is recognized as a piece of DNA, just one side of this STR, and the other piece recognizes the DNA on the other side of the STR we are going to Xerox.

* * * *

[50] A. Yes. If you remember from the slides that how do we make new DNA from one copy being more DNA? Well, we need certain substances, chemicals. DNA polymerase, we need DNA polymerase.

Q. And that's what we saw on the video?

A. Yes. We need the DNA polymerase to make the DNA. You need the building blocks of DNA to make new DNA, so we need to have that in our kits. We also need to have, because we're doing biochemistry, we need to have instead of water, we need to have salt and some other substances called a *buffer* just because the chemical reaction can't take place in just simply water, all right?

Q. And are these in the boxes?

A. These kits should have all the components necessary to set up, for the most part, your PCR reaction.

* * * *

[52] [A.] . . . And also important in these kits is a control piece of DNA, our control DNA from another human source, because obviously if we run the DNA test, we have to make sure that when we run the test we have appropriate controls to make sure the test worked.

One of the important controls is to have a DNA sample from a known person with a known DNA type. And so all kits, whether it's Promega or Applied Biosystems, will require the use of a particular control. In this case, this is a human DNA control from an individual that we run.

* * * *

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

10-cv-281

PROMEGA CORPORATION,

Plaintiff,

MAX-PLANCK-GESELLSCHAFT ZUR
FORDERUNG DER WISSENSCHAFTEN E.V.,

Involuntary Plaintiff,

v.

LIFE TECHNOLOGIES CORPORATION,
INVITROGEN IP HOLDINGS, INC. and
APPLIED BIOSYSTEMS, LLC,

Defendants.

Madison, Wisconsin
February 8, 2012
10:45 a.m.

VOLUME 3-B

STENOGRAPHIC TRANSCRIPT OF THIRD DAY
OF JURY TRIAL MORNING SESSION HELD
BEFORE THE HONORABLE BARBARA B. CRABB

* * * *

[2] INDEX

PLAINTIFF'S WITNESSES	RANDALL DIMOND
EXAMINATION	Redirect by Mr. Troupis
PAGES	26-31

* * * *

[27] Q. And are those kits made in the United States?

A. At the time of that agreement, I was informed by Dr. Moehle that all of their products were made in the United States.

Q. So do you have any reason to believe that either they — either those products or substantial components of those products are not made in the United States today?

A. I don't have any reason to believe that.

Q. And so they would all be subject to payments under the 2006 agreement because they are made or sold in the United States?

A. Correct.

* * * *

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

10-cv-281-BBC

PROMEGA CORPORATION,

Plaintiff,

and

MAX-PLANCK-GESELLSCHAFT zur FORDERUNG der WISSENSCHAFTEN E.V.,

Involuntary Plaintiff,

-vs-

LIFE TECHNOLOGIES CORPORATION, INVITROGEN IP HOLDINGS, INC. and APPLIED BIOSYSTEMS, LLC,

Defendants.

Madison, Wisconsin
February 9, 2012
1:30 p.m.

VOLUME 4-C – DAILY COPY

STENOGRAPHIC TRANSCRIPT OF FOURTH DAY OF JURY TRIAL HELD BEFORE DISTRICT JUDGE BARBARA B. CRABB, and a jury,

* * * *

[2] INDEX

PLAINTIFFS' WITNESSES	LAURA FRANCIS
EXAMINATION	Direct by Mr. Troupis
PAGE	60-86

* * * *

[82] Q So if one were to try to calculate the actual lost profits from these sales, if Promega lost sales—

A Right.

Q — how would you go about it?

[83] A So, do you want —

Q If you want, you may use the board.

THE WITNESS: Is that okay if I come to the board and show how I would do that?

THE COURT: Yes. I think there's a microphone right next to you.

MR. TROUPIS: Or you could try to set it up so this time —

THE COURT: That's fine, too.

THE WITNESS: I'm pretty loud, too.

MR. TROUPIS: And there's some pens there by the water right next to where you were sitting.

THE WITNESS: So I'm going to try and be very simple on how I would do this. But the first thing that I would actually start with was the Life Technologies STR sales.

BY MR. TROUPIS:

Q That has been stipulated to be 707 million dollars.

A Okay. So this is your 707 million. So that's where we start. But then you're going to have to subtract out the permitted sales, right? Those sales that are made in accordance with the licensing agreement. I don't know that number. So what I'm going to do is I'm just going to put an "X" here, okay? But I'm going to subtract that out. And then I'm going to [84] get a number, and that number to the best of our ability represents Promega's lost sales. And once again, I can't calculate it because I don't have "X," so I'm just going to call that "Y." Okay?

So now I know what Promega's lost sales are. This is where that 73.5 percent number becomes important because now I'm going to multiply that by that gross margin percentage and I'm actually just going to put .735 and multiply. Okay? And then what I'm going to get down to is Promega's lost profits. And that's an equal, I'm just going to put a "Z" there.

So very simplistically that is the way that we would go through that calculation. Is that visible?

Q That's good. Thank you. Does that represent — you've done it very simplistically. Does that represent the actual losses during that time period just considering lost profits?

A It's probably low.

* * * *

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

10-cv-281-BBC

PROMEGA CORPORATION,

Plaintiff,

and

MAX-PLANCK-GESELLSCHAFT zur
FORDERUNG der WISSENSCHAFTEN E.V.,

Involuntary Plaintiff,

-vs-

LIFE TECHNOLOGIES CORPORATION,
INVITROGEN IP HOLDINGS, INC. and
APPLIED BIOSYSTEMS, LLC,

Defendants.

Madison, Wisconsin
February 13, 2012
1:15 p.m.

VOLUME 6-C – DAILY COPY

STENOGRAPHIC TRANSCRIPT OF SIXTH DAY OF JURY TRIAL HELD BEFORE DISTRICT JUDGE BARBARA B. CRABB, and a jury,

* * * *

[2]INDEX

DEFENDANTS' WITNESSES RANDALL DIMOND

EXAMINATION Direct by Mr. Troupis

PAGES 34-58

* * * *

[42] MR. TROUPIS: If we might get the PowerPlex 16 or actually the defendants' kit. Either one or both. Your Honor, may I approach the witness and provide him with the 976 and 1015?

THE COURT: You may.

BY MR. TROUPIS:

Q Dr. Dimond, 976 is the defendants' kit; is that correct?

A That is correct.

Q One of the accused kits here.

A Yes. It's the Identifiler Plus.

Q And it also appears on many of the exhibits which [43] you've just identified; correct?

A Yes, it does. Or at least the latter set.

Q Okay. What are the key components of that kit?

A Well, as we talked about earlier, the principle components that allow an STR kit to work and to really differentiate it from tests for other genes are the primers that allow amplification of just the various STR loci.

Another critical component is the DNA polymerases that are used in the polymerase chain reaction to what we call amplify. It's really to make many, many copies of the target DNA that's present. And then the allelic

ladders, which are manufactured mixtures of the major alleles that are found in the human population so that one can compare the amplified material from the test material to the allelic ladder to confirm exactly which allele was present in the test sample. So those are the more important things.

There are buffers and water and other things that are in the kits, but those are the key ingredients.

* * * *

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

10-cv-281

PROMEGA CORPORATION,

Plaintiff,

MAX-PLANCK-GESELLSCHAFT ZUR
FORDERUNG DER WISSENSCHAFTEN E.V.,

Involuntary Plaintiff,

v.

LIFE TECHNOLOGIES CORPORATION,
INVITROGEN IP HOLDINGS, INC. and
APPLIED BIOSYSTEMS, LLC,

Defendants.

Madison, Wisconsin
February 13, 2012
3:05 p.m.

VOLUME 6-D

STENOGRAPHIC TRANSCRIPT OF SIXTH DAY
OF JURY TRIAL AFTERNOON SESSION HELD
BEFORE THE HONORABLE BARBARA B. CRABB

* * * *

[2] INDEX

PLAINTIFF'S WITNESSES	GUIDO SANDULLI
EXAMINATION	Adverse by Mr. Troupis Clarification by Ms. Johnson
PAGES	4-40 40-48

* * * *

[29] Q. Okay. So this is, as best you can tell, for the Identifiler Plus, its a bill of materials for that product?

A. That's correct.

Q. Back to page 16. About halfway down it talks about primers again, US21; do you see that? That would again indicate it's originating in United States, Austin?

A. I'm sorry. Which line?

Q. The line that says *Bulk Primer* and then *Bulk 6-FAM*.

A. Bulk 6-FAM D7, yep, that's correct. The Bulk 6-FAM AMIDITE, it's not a primer.

[30] Q. I'm sorry. That doesn't say that on page 16. I don't know what page you're on.

A. I'm looking at the screen right here says *Bulk 6-FAM AMIDITE*. I believe that's 16. What you've highlighted there is not a primer.

Q. That's fine. That originates in the U.S. as well?

A. The AMIDITE? Yes, it does.

Q. And then I assume we're on page 16. 12 lines down, 13 lines down, it says *Bulk 6-FAM D7*?

A. Yes, that's right.

Q. And that's also in the U.S., a primer?

A. Says *US21,* correct.

Q. Next page, page 17, about halfway down after *ETHYL D19F2 Primer*?

A. The D19F2 Primer.

Q. Yes. That's in the U.S. as well; is that right?

A. That's correct. *US21* is the designation.

Q. And next page, page 18, says *VWA.R.NF100.* That's also U.S., right?

A. Also reference to Austin, correct.

Q. Next page near the bottom again shows the primer, says U.S.?

A. Mm-mm, the *VWA.R.718,* yes, that's correct.

Q. And then on page 22 we see primers again about two-thirds of the way down?

[31] A. The *Pet FGA Primer?*

Q. Yes.

A. Yep, I see it.

Q. And then on the page 25 at the very top it says *Pet AMEL Primer.* Would that be in the U.S. as well?

A. Pet US21 for the AMEL primer.

Q. Then on the next page we see *Bulk Primer* on page 26, U.S., up near the top?

A. Yeah, the Bulk 50 Microliter VIC D3 Primer.

Q. Originates in the U.S.?

A. *US21,* the designation.

Q. Page 27, see primers again about halfway down?

A. The Bulk 50 Microliter VIC TH01 Primer.

Q. Originates in the U.S.?

A. Yes, US21.

Q. Pate [sic] 28 near the bottom we see *Primer US21*?

A. VIC D13 Peg/Dimer Primer, that's correct, also designated *US21.*

Q. Page 30, about halfway down again we see the Peg/Dimer Primer?

A. VIC 50 Micromolar, VIC D2 Peg/Dimer Primer?

Q. Yes.

A. Yes, has the *US21* designation.

Q. In fact, wherever I see *US21* in all of these primers, we could conclude that it was coming from the [32] United States, right?

A. That's right. The *GB11* is a reference to the UK.

Q. But when we see *US21,* it's coming out of Austin?

A. Correct.

Q. And the primers here, all the ones we've looked at least, are all coming out of Austin. And any others that might be in here that indicate *US21* would be coming out of Austin, right?

A. That's correct.

Q. Okay. It's go over to page 39. About a third of the way down it says *GOLD 5 U.S. 26.* Where is that from?

A. GOLD 5?

Q. What's that referring to?

A. I don't know what *US26* is and I don't know what the *GOLD* is referring to.

Q. That's referring to Taq, isn't it, to the right-hand side it says *AMPLITAQ*.

A. I see. Okay. GOLD, that's right. Yeah, there are subsequent references to *Taq Gold* later in the document.

Q. This reference to *Taq, AMPLITAQ* GOLD that we're looking at on page 39, it says *US* and then it has *26*. That means it originates in the United States, right?

A. I can't tell you where *US26 is*. I'm not familiar without looking.

Q. You can't testify that it isn't in the United States [33] because that's what you started out by saying. You said, "If it says *US26*, it's in the United States."

A. That would be a reasonable assumption to make. Again, I don't know where US26 is. I know that US21 is Austin.

Q. You don't know the exact location of US26, but you know it's in the United States?

A. You know, I may have that wrong. But you're right, US26 and 21 are U.S. locations within the U.S. within Life Technologies.

* * * *

[36] Q. The Taq, you recognize when I refer to *Taq*, I'm talking about the Taq DNA polymerase? It might be in a variety of different formats, but the Taq is the

polymerase that's used in these various kits. You understand what I mean, *Taq*?

A. The enzyme that's used in the kits.

Q. That's the enzyme that's used in order to amplify the DNA; is that right?

A. That's correct. So Tag is sort of a generic term there. There are many different kinds, many different manufacturers. I would use the term *enzyme*. Its the enzyme that goes into the kit.

Q. That's why I want to make it clear that when I refer to *Taq*, you refer to *enzyme*, but we're talking about the same thing?

A. Understood.

Q. The Taq polymerase or the polymerase that's utilized in the kits that are assembled in Warrington originates in Texas, am I correct, from Roche?

A. Depends on the kits. Some of them use material that's insourced from Roche. Others use material that were actually produced in Austin, in our factory in Austin.

Q. Didn't you testify that the Tag polymerase used in [37] your kits in Warrington was in fact originated from a stocking and distributing from Austin, Texas? We already know in terms of the products we've said, but more generically

A. Of all the materials that you've showed me, that's absolutely true. The Identifiler Kit and the SGM Plus Kit, the enzymes are from Roche, insourced into the Austin location.

Q. What about as to the other kits and their Taq DNA polymerase?

A. There are some kits that use — is also a Taq GOLD but is produced in Austin, Texas.

Q. It's actually produced in Austin, Texas and shipped?

A. Yes.

Q. Okay. But all of the Taq DNA polymerase that's used in these kits originates in the United States before it gets to England?

A. It is all shipped from — Austin is the center for all of our enzymes. That's where they get ship out to from all of our different customers in all of our different application areas.

Q. Okay. So if there's *Taq,* it came from Texas?

A. For the bills of materials for these products, yes, that's right.

Q. How about for your other STR products?

[38] A. For all of our STR products, the Tag enzyme is either insourced from Roche, brought to Texas or produced in Texas and then shipped out.

* * * *

[39] BY MR. TROUPIS:

Q. So the primers that we were talking about that do originate in the United States apparently originate in Pleasanton, right?

A. That's correct.

Q. Let me ask you, you — that is, Life Technologies — has exact records of each product and where it originates from, 2006 to 2011, in your records? You could actually produce, couldn't you, a bill of materials

for every product for every — for these STR kits like you're looking at there?

A. Correct.

Q. And from that, you could determine, at least based on your testimony, the origins of components from that?

A. The components, that's correct.

Q. We did Identifiler and the primers came from the United States. Identifiler Plus, the primers also come from the United States; isn't that correct?

A. No. I think you selectively picked out the primers in this bill of material that came from the United States. There are many primers in this bill of materials that are produced in the UK.

Q. There are primers utilized in Identifiler that come from the United States?

[40] A. There are primers that are used in Identifiler that come from the United States, that's correct.

Q. And there are primers used in Identifiler Plus that come from the United States, correct?

A. That is correct.

Q. And there are primers in Identifiler Direct that come from the United States, correct?

A. Yes, that is correct. They are all the same primers, actually.

Q. Well, they are different designations in different accused products here, so —

A. Yes, yes.

MR. TROUPIS: That's all I have.

THE COURT: Thank you. Ms. Johnson.

CLARIFICATION

BY MS. JOHNSON:

Q. Mr. Sandulli, there has been some discussion obviously about components of the STR kits. And you testified about various bills of materials, including Plaintiff's Exhibit 884, a few minutes ago. I want to take you up and get a more broader aerial view, if you will.

A. Sure.

Q. Where are Life Technologies' STR kits assembled?

MR. TROUPIS: Objection, beyond the scope.

[41] THE COURT: Overruled.

A. They're assembled in our factory in Warrington in the United Kingdom.

Q. And how do you know that?

A. I've been there several times? [sic]

Q. And how long has that been the case?

A. Since 2005.

Q. And is there anything particular or special about that facility that allows those kits to be manufactured there?

A. Yeah. It's a very specialized facility.

MR. TROUPIS: Objection. Misstated. She called it *manufacture;* it's *assembly.*

MS. JOHNSON: I will restate my question, Your Honor.

BY MS. JOHNSON:

Q. Is there anything particular or special about that facility that allows those kits to be assembled there?

A. Yes. Its very specialized and it is a manufacturing facility, so there are many components that go into the kits. But, for example, the allelic ladder, which is one of the components that goes into the kit, it's amplified material. The ladders are amplified there in a separate facility.

And the issue that's fairly important, it was [42] something we spent a lot of money on, was a dedicated facility separate from the factory where we amplified all the material and put it all into tubes and boxed it up all robotically because the amplified material can easily contaminate a crime lab or sample, so there are a lot of controls that are put in place.

So it's fully automated — the manufacture, tubing, boxing and then shipping out — and it's a specialized facility that you can't go there and come back to the main formulation facility in order to reduce the risk of contamination. So if you ever visit, you have to go home, take a shower, spend the time before you can come back to the main factory.

Inside the main factory, oligos are synthesized, so many of these primers in the bill of materials are synthesized using DNA oligo synthesis machines that I've personally witnessed operating making these primers.

And then there's a dedicated formulation room where — and again, you can see in these documents these are bulks, meaning it comes in a big tube to manufacture the kits, in many cases requires 30-plus

primers. So there's a formulation laboratory in Warrington where the bulks are drawn off of and a primer mix is assembled, which again is a very complex and important process to make sure the kits work accurately, work well in our [43] customers' hands.

Once you do the formulation, then you do the tubing, then you do the packaging and assembling. That's done also on a dedicated assembly line.

Q. And that's been true, you said, since 2005. How do you know that?

A. 2005 is when I started and that's when they were in the process of moving all of those components to Warrington and then I subsequently visited again on several occasions.

Q. You mentioned a moment ago that Warrington facility was a manufacturing facility. What did you mean by that?

A. The components of the kits are in some cases physically made there. In other cases they are — they take the raw materials and formulate them into the finished components that go into the kit and are physically put into the tubes and then packaged up.

Q. What components are physically made in Warrington?

A. The allelic ladder is physically made there. The primer mix is formulated there. The control DNA is formulated there. The reaction mix is formulated there. Again, the reaction mix takes lots of raw materials, in some cases including the enzyme, and mixes them into a reaction mix that then goes into a tube.

Q. Prior to 2005, where was that, if you know, where [44] was that done?

A. Much of that work was done in Foster City in California.

Q. Did the move begin prior to 2005 or when was it completed?

A. It was complete in 2005.

Q. And do you know how long it took to move that process?

A. The process had started before I joined.

Q. Let's talk a little bit about the polymerase. There has been quite a lot of discussion about Taq and PCR and the polymerase. Where does Life obtain that?

A. As I mentioned before, sometimes we buy it in from Roche. Other times we make it in our facility in Austin, Texas. There are a lot of other — there are many different kinds of enzymes that are manufactured in sites all over the world.

Q. And does polymerase have any other uses other than STR?

A. Its a very broad — almost a commodity product that's widely used in research, in sequencing, in gene expression. On the applied market side it's used for food testing kits, for animal health screening products, for human diagnostics. There are many many uses for DNA polymerase enzymes.

[45] Q. So would those all be nonhuman identification sorts of uses?

A. Yes.

Q. There has been discussion of course about the primers. Are there primers that are manufactured in the Warrington facility?

A. Yes.

Q. And do you know which primers those are?

A. I couldn't name them off the top of my head, but they are used in all of our — many of our kits. I want to say all of them, but I would have to go back and look at all the lists of which primers go into which kits. But the Warrington site has a very large oligo synthesis manufacturing facility that makes the oligos that are the primers that go into our kits.

Q. There has been discussion about components of the kits in a general sense of three components. What would you understand those three components to be?

A. I guess I think there's more components than that, but the main ones are the primer mix, the reaction mix and the enzymes. The enzyme is mixed in with the reaction mix.

Q. And so the enzyme would be the Taq polymerase?

A. The enzyme would be the Taq, reaction mix and then the allelic ladder is the other piece that's — I [46] consider that a major component of the kit.

Q. Did any of the allelic ladders continue to be manufactured in Foster City after this move to the UK in '05?

A. No. They've all been made in Warrington, UK since then.

Q. And are there any kits, any STR kits, that contain solely UK primer and allelic ladder with just the Roche enzyme for the third component?

A. Yes, there are.

Q. And what kits would those be?

A. SGM Plus, Cofiler, Profiler Plus, Profiler Plus ID. Those are the ones I can think of off the top of my head.

* * * *

SANDULLI, GUIDO (Vol. 01) – 01/13/2012
1 CLIP (RUNNING 00:00:38.265)

SANDULLI CLIP 1 30(b)(6)

SAND1
1 SEGMENT (RUNNING 00:00:38.265)

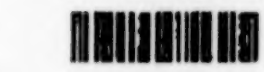
1. PAGE 101:08 TO 101:24 (RUNNING 00:00:38.265)

08 Q. Turn to page 11, if you would, of the
09 exhibit, please.
10 A. I'm there.
11 Q. The sixth line from the bottom, could you
12 read that where it says bulk.
13 A. Bulk amylogen and primer.
14 Q. And that has a U.S. identifier number next
15 to it?
16 A. Yes.
17 Q. And that shows .038 milliliters at .97
18 USD; correct?
19 A. Yes.
20 Q. And so that would have been a component
21 part that would have at some point come from the
22 United States?
23 A. Yes. That would have gone into the primer
24 mix.

SANDULLI, GUIDO (Vol. 01) – 12/14/2011
1 CLIP (RUNNING 00:00:30.947)

SANDULLI CLIP 2

SAND2
1 SEGMENT (RUNNING 00:00:30.947)



1. PAGE 159:12 TO 159:23 (RUNNING 00:00:30.947)

Q. And where are those — first of all, what do you know that is manufactured of the primers in the United States?
A. Know that some of the labeled and mobility modified alligoes are produced at — are synthesized at least in our Pleasanton facility. Where they get their DNTP's and other raw materials from, I don't know.
Q. When you say "our Pleasanton facility" —
A. Life Technologies Pleasanton facility.
Q. Okay. And that's in what state?
A. Pleasanton, California.

Total: 2 CLIPS FROM 2 DEPOSITIONS (RUNNING 00:01:09.212)

SHEPHERD, MICHELLE (Vol. 01) – 07/26/2011 [Shepherd, Michelle]

1 CLIP (RUNNING 00:04:42.843)

THE VIDEOGRAPHER: Good morning. This ...

SHEP
5 SEGMENTS (RUNNING 00:04:42.843)

* * * *

4. PAGE 65:03 TO 65:14 (RUNNING 00:00:37.896)

03 Q. Okay. Since you go there, let me take you
04 to what's been marked as Exhibit 1, and take you to
05 paragraph — the numbered paragraph — 14. You
06 mentioned Foster City as where the kits are
07 manufactured?
08 A. Components of the kits are manufactured in
09 Foster City.
10 Q. And these are the STR kits?
11 A. Yes.
12 Q. Okay. What components? If you know.
13 A. The allelic ladders.
14 Allelic a-l-l-e-l-i-c.

* * * *

II. POST-TRIAL INSTRUCTIONS

* * * *

Question No.2.

Question No. 2 asks you to determine the total dollar value of the defendants' United States sales of STR kits. "United States sales" include all kits made, used, offered for sale, sold within the United States or imported into the United States, as well as kits made outside the United States where a substantial portion of the components are supplied from the United States.

* * * *

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

10-cv-281-bbc

PROMEGA CORPORATION,

Plaintiff,

v.

LIFE TECHNOLOGIES CORPORATION, INVITROGEN IP HOLDINGS, INC. AND APPLIED BIOSYSTEMS, LLC,

Defendants.

SPECIAL VERDICT

We, the jury, for our special verdict, do find as follows:

Question No. 1: What is the total dollar amount of worldwide STR kit sales made between August 29, 2006 through the end of January 2012 by defendants Life Technologies Corporation, Invitrogen IP Holdings. Inc. and Applied Biosystems, LLC?

Answer: $ 707,618,247

(Answered by the court)

Answer Question No. 2.

Question 2: What is the total dollar amount of defendants' sales of STR kits that were United States sales as that term has been defined for you in the instructions?

Answer: $ 707,618,247

Answer Question No. 3.

Question No. 3: Of the sales in your answer to Question No.2, what is the total dollar amount of defendants' STR kit sales that were permitted by the 2006 licensing agreement?

Answer: $ 636,856,422

Answer Question No. 4.

Question No. 4: Subtract the dollar amount you found in Question No. 3 from the dollar amount in your answer to Question No.2.

Answer $ 70,761,825

Answer Question No. 5.

Question No. 5: What profits, if any, did plaintiff lose as a result of defendants' sales that you found in Question No. 4?

Answer: $52,009,941

Answer Question No. 6.

Question No. 6: For those sales from Question No. 5 for which you found that plaintiff has not proven its entitlement to lost profits, what amount of money is a reasonable royalty for plaintiff?

Answer: $ _____

Answer Question No. 7.

Question No. 7: Was defendants' infringement willful?

Answer: YES
(Yes or No)

/s/ [Illegible]
Presiding Juror

Madison, Wisconsin
Dated this 15 day of February, 2012

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

10-cv-281-bbc

PROMEGA CORPORATION,

Plaintiff,

and

MAX-PLANCK-GESELLSCHAFT zur FORDERUNG der WISSENSCHAFTEN E.V.,

Involuntary Plaintiff,

v.

LIFE TECHNOLOGIES CORPORATION, INVITROGEN IP HOLDINGS, INC. and APPLIED BIOSYSTEMS, LLC,

Defendants.

JUDGMENT IN A CIVIL CASE

This action came before the court and a jury with District Judge Barbara B. Crabb presiding. The issues have been tried and the jury has rendered its verdict.

IT IS ORDERED AND ADJUDGED that judgment is entered:

1. granting defendants' motion for partial summary judgment with respect to plaintiff Promega Corporation's claim of infringement of claims 25 and 27-31 of U.S. Patent No. 5,843,660 and

defendants' counterclaims for noninfringement of the same claims;

2. granting plaintiff's motion for summary judgment with respect to the following claims of infringement:

a. AmpF1STR COfiler PCR Amplification Kit infringes claims 23 and 27 of U.S. Patent No. 6,221,598 and claim 42 of U.S. Patent No. RE 37,984;

b. AmpF1STR Profiler PCR Amplification Kit infringes claims 10, 23-24, 27 and 33 of the '598 patent and claim 42 of the '984 patent;

c. AmpF1STR Identifiler PCR Amplification Kit infringes claims 10-23-24 and 27 of the '598 patent, claims 18-19 and 21-23 of U.S. Patent No. 6,479,235, claim 5 of U.S. Patent No. 7,008,771 and claim 42 of the '984 patent;

d. AmpF1STR Profiler Plus PCR Amplification Kit infringes claim 42 of the '984 patent;

e. AmpF1STR Yfiler PCR Amplification Kit infringes claim 42 of the '984 patent;

f. AB Minifiler PCR Amplification Kit infringes claim 42 of the '984 patent;

g. AB SGM Plus PCR Amplification Kit infringes claim 42 of the '984 patent;

h. AB Sefiler Kit infringes claim 42 of the '984 patent;

i. AB Sefiler Plus Kit infringes claim 42 of the '984 patent;

j. NGM PCR Amplification Kit (1000 and 200) infringes claim 42 of the '984 patent;

k. NGM SElect Kit infringes claim 42 of the '984 patent;

l. Identifiler Plus Kit infringes claim 42 of the '984 patent, claim 5 of the '771 patent, claims 18, 19, 21, 22 and 23 of the '235 patent, claims 10, 23, 24, 27 and 33 of the '598 patent;

m. Identifiler Direct Kit infringes claim 42 of the '984 patent, claim 5 of the '771 patent, claims 18, 19, 21, 22 and 23 of the '235 patent, claims 10, 23, 24, 27 and 33 of the '598 patent;

n. AB Green I PCR Amplification Kit infringes claim 42 of the '984 patent and claims 23 and 27 of the '598 patent;

o. Blue PCR Amplification Kit infringes claim 42 of the '984 patent;

p. COfiler + Profiler Plus Kit infringes claim 42 of the '984 patent and claims 23 and 27 of the '598 patent; and

q. the Profiler Plus ID infringes claim 42 of U.S. Patent No. Re 37,984;

3. granting plaintiff's motion for summary judgment with respect to defendants' affirmative defenses and counterclaims that the '235, '598, '660 and '771 patents are invalid because they are anticipated, obvious or not enabled; and

4. awarding damages in favor of plaintiff Promega Corporation against defendants Life Technologies Corporation, Invitrogen IP Holdings, Inc. and Applied Biosystems, LLC in the amount of $52,009,941.

Approved as to form this 21st day of February, 2012.

/s/ Barbara B. Crabb
BARBARA B. CRABB, District Judge

/s/ Peter Oppeneer
PETER OPPENEER, Clerk of Court

2/23/12
Date

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

10-cv-281-bbc

PROMEGA CORPORATION,

Plaintiff,

and

MAX-PLANCK-GESELLSCHAFT zur FORDERUNG der WISSENSCHAFTEN E.V.,

Involuntary Plaintiff,

v.

LIFE TECHNOLOGIES CORPORATION, INVITROGEN IP HOLDINGS, INC. and APPLIED BIOSYSTEMS, LLC,

Defendants.

OPINION and ORDER

This is a case brought under the Patent Act, 35 U.S.C. § 271, involving four patents related to a type of DNA testing called "multiplex amplification of short tandem repeat loci." Plaintiff Promega Corporation contends that defendants Life Technologies Corporation, Invitrogen IP Holdings, Inc. and Applied Biosystems, LLC sell testing kits that meet the limitations for one or more claims in patents that plaintiff owns. In an order dated November 29, 2011, dkt. #345, I agreed with plaintiff that defendants were practicing some of the claims of U.S. Patents Nos. 5,843,660,

6,221,598, 6,479,235, 7,008,771 and Re 37,984. One of the questions that remained for trial was the extent to which defendants were engaging in acts prohibited by the Patent Act because many of the accused products were manufactured and sold in foreign countries and the reach of the Act is more limited in the context of foreign sales.

At trial plaintiff based its theories of infringement on 35 U.S.C. § 271(f)(1) and 35 U.S.C. § 271(a). Section 271(f) prohibits the sale of infringing products if "a substantial portion" of the components of the accused products are supplied from the United States; the relevant portion of § 271(a) prohibits manufacturing infringing products in the United States or importing infringing products into the United States. Plaintiff asked the jury to find that *all* of defendants' sales met the requirements of one or both of these statutes. The jury agreed with plaintiff and awarded more than $50 million in damages.

Defendants filed a motion for judgment as a matter of law under Fed. R. Civ. P. 50 in which they argued that plaintiff had failed to prove its case under either § 271(f)(1) or § 271(a). Although defendants did not deny that plaintiff had adduced evidence that some of the accused products included a substantial portion of components supplied from the United States, were made in the United States or were imported into the United States, defendants argued that "some" was not enough because plaintiff adduced evidence only as to defendants' total worldwide sales, so defendants were entitled to judgment as a matter of law unless all of those sales fell under § 271(a) or (f)(1). In responding to defendants' motion, plaintiff did not deny that it took an "all or nothing" approach at trial, so I con-

cluded that any argument to the contrary was forfeited. Instead, plaintiff argued that the evidence was sufficient to allow the jury to find that all of defendants' sales violated § 271(a) or (f)(1). Ultimately, I agreed with defendants that they were entitled to judgment as a matter of law. As a result I denied as moot defendants' motion for judgment as a matter of law on lost profits calculations, defendants' motions for a new trial, defendants' motion for judgment as a matter of law on nonwillfulness, plaintiff's motion for a finding of an "exceptional case" under 36 U.S.C. § 285, plaintiff's motion for enhanced damages, plaintiff's motion for a permanent injunction and plaintiff's bill of costs. Dkt. #684.

In response to that order, plaintiff has filed three motions: (1) a "motion for amendment of, or relief from, judgment regarding damages, or, in the alternative, for a new trial"; dkt. #693; (2) a "motion for amendment of, or relief from, the judgment with respect to infringement, permanent injunction, and exceptional case finding, or, in the alternative, a new trial," dkt. #690; and (3) a "motion for relief from the amended judgment based on newly discovered evidence and for a new trial." Dkt. #727. In addition, plaintiff has requested oral argument on its motions. Dkt. #697. Finally, defendants have filed a motion to "strike" portions of plaintiff's reply briefs in support of the first two motions. Dkt. #741.

I am denying plaintiff's motion for oral argument because I do not believe oral argument is necessary to resolve any of the motions before the court. I am denying plaintiff's remaining motions as well because plaintiff has failed to show that it is entitled to relief from the amended judgment. Finally, I am denying as unnecessary defendants' motion to "strike" portions of

plaintiff's reply briefs because any new arguments in those briefs would make no difference to the outcome of plaintiff's motions.

OPINION

I will address the arguments in plaintiff's various motions in the following order: (A) the court erred in concluding that plaintiff had failed as a matter of law to prove that all of defendants' sales of the accused products since 2006 violated 35 U.S.C. § 271(a) or 35 U.S.C. § 271(f)(1); (B) if the court adheres to its conclusion, the court should grant a new trial on these issues; (C) the court should not have denied as moot plaintiff's motion for a permanent injunction and motion for attorney fees; and (D) the court should vacate the judgment and hold a new trial because of newly discovered evidence.

A. Motion for Reconsideration as to Damages

1. Section 271(a)

Under § 271(a), "whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent." In defending the verdict under this provision, plaintiff argued that the jury could have relied on the deposition testimony of Michelle Shepherd, one of defendants' designated witnesses under Fed. R. Civ. P. 30(b)(6), to find that all of the accused products are made in the United States or imported here. I rejected this argument because Shepherd admitted she did not know whether either of these things was true. Tr. Trans., dkt. #551-1, at 129 ("I'm not certain there—all of these varieties of AmpFLSTR kits are assembled in Foster City [California]. They may be assembled in Warrington

[the United Kingdom]."); *id.* at 129-30 (when asked about origin of kit ordered in Germany, she said that she was "only able to speak to the U.S. shipping and manufacturing").

Although plaintiff argues in its new motion that the evidence was sufficient under § 271(a), it points to no new or different evidence supporting that conclusion. Instead, it argues that Shepherd's testimony alone is sufficient if it is viewed in the light most favorable to plaintiff. In particular, plaintiff points to the following question and answer:

> Q. Okay, So some complete kits may be shipped out of England to a customer?
>
> A. They would be shipped to a warehouse in the States, and from there be shipped to a customer.

Dkt. #551-1 at 129. Plaintiff says that Shepherd did not expressly limit her testimony about the kits that are shipped to "the States," so the jury could infer that she was referring to *all* of defendants' accused products.

This argument has two problems. First, the question was about "some" kits, so Shepherd's answer that "[t]hey" are shipped to the United States does not permit the drawing of any inference about all of the kits shipped since 2006. Second, although courts must draw all reasonable inferences in favor of the non-moving party, this rule does not permit courts to view pieces of evidence in isolation. *Reeves v. Sanderson Plumbing Products, Inc.*, 530 U.S. 133, 150 (2000) ("[I]n entertaining a motion for judgment as a matter of law, the court should review all of the evidence in the record."). Because Shepherd's later testimony made it clear that she did not know where a kit

ordered from Germany would come from, the jury could not draw a reasonable inference from her previous ambiguous statement that she knew that all of defendants' accused products were imported into the United States. Accordingly, I adhere to my conclusion that plaintiff failed as a matter of law to prove that all of defendants' sales of the accused products were made in the United States or imported here.

2. Section 271(f)(1)

Under § 271(f)(1),

> [w]hoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

In granting defendants' Rule 50 motion, I concluded that plaintiff had failed as a matter of law to prove that all of the accused products satisfied two elements of this statute, first, that a "substantial portion of the components" was supplied from the United States and, second, that defendants "actively induce[d]" the combination of components. Dkt. #684 at 8-18. With respect to a "substantial portion" of components, I concluded that the statute requires that at least two components be supplied from the United States and that plaintiff had failed to show that all of the accused products from the relevant time period were made with two or more components supplied from the United States. With respect to active inducement, I

relied on several factors to conclude that the statute required the involvement of a third party and that plaintiff did not deny defendants' contention that defendants had done all the combining themselves.

In its new motion, plaintiff challenges the court's conclusion on both elements. With respect to a "substantial portion," it argues in its opening brief that the evidence was sufficient to show that all of the accused products included Taq polymerase and allelic ladders supplied from the United States, but it admits in its reply brief that the "documents show that not every STR kit throughout the damages period had allelic ladders that were supplied from the United States," dkt. #726 at 26, so this argument is moot. Although plaintiff says that it is challenging the court's conclusion that § 271(f)(1) requires that two components be supplied from the United States, it does not develop an argument on this point, so it has forfeited the point for the purpose of this motion.

With respect to active inducement, plaintiff relies primarily on a case decided by the Court of Appeals for the Federal Circuit after this court granted defendants' Rule 50 motion, *Akamai Technologies, Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301 (Fed. Cir. 2012). However, nothing in *Akamai* suggests that a party may "induce" itself under § 271(f), so it is not instructive.

Plaintiff raises an alternative argument that defendants did not "induce" themselves, but their "foreign divisions, subsidiaries or employees." Plt.'s Br., dkt. #726, at 23. This is a new argument. Plaintiff points to a sentence in its brief in opposition to defendants' Rule 50 motion in which it stated that § 271(f)(1) "includes the situation where an offshore division of a company is supplied components," but

this was in the context of a larger argument that "there is nothing in the statute that limits it to situations where only a third party creates the combination." Dkt. #616 at 8. Plaintiff never developed an argument until now that the entity or entities combining the components overseas could be considered distinct from defendants. Accordingly, that argument is forfeited as well.

B. Motion for a New Trial on Damages

In the event that the court denies its motion for reconsideration on these issues, plaintiff asks for a new trial to prove a lesser amount of damages. I conclude that this is another forfeited argument. In their postverdict motions defendants did not seek a new trial under Fed. R. Civ. P. 59 on the ground that the particular amount of damages found by the jury could not be sustained. Rather, defendants sought judgment as a matter of law under Fed. R. Civ. P. 50 on the ground that plaintiff had failed to prove *any* damages. *See generally* Dfts.' Br., dkt. #581. In particular, defendants argued that plaintiff's evidence at trial related solely to defendants' total worldwide sales and that plaintiff had made no attempt to quantify the sales of any subset of products. Because the evidence did not support a finding that all of defendants' sales violated § 271(a) or § 271(f)(1), defendants argued, this left plaintiff with no evidence of damages.

In response to defendants' motion, plaintiff argued that the motion should be denied because the evidence was sufficient to support the jury's finding that *all* of defendants' sales of the accused products violated § 271(f)(1) or § 271(a). Plaintiff did *not* argue in the alternative that defendants' Rule 50 motion should be denied because the trial record was sufficient to support a lesser damages award and it did not respond

in any way to defendants' contention that plaintiff's evidence at trial was limited to defendants' total worldwide sales. As a result, I concluded that plaintiff had conceded this issue. Dkt. #684 at 8-9.

Although my finding that plaintiff had failed to address this issue was explicit in the September 13 order, plaintiff does not challenge the finding in its new motion. Accordingly, I need not consider this issue further. "A party may not introduce evidence or make arguments in a Rule 59 motion that could or should have been presented to the court prior to judgment." *United States v. 47 West 644 Route 38, Maple Park, Illinois*, 190 F.3d 781, 783 (7th Cir. 1999). If plaintiff believed that the evidence at trial could support a lesser damages award, it could have and should have raised that issue in response to defendants' Rule 50 motion.

C. Injunctive Relief and Attorney Fees

When I granted defendants' Rule 50 motion, I denied as moot plaintiff's motion for a permanent injunction and its request for attorney fees under 35 U.S.C. § 285. In its new motion, plaintiff argues that doing so was a mistake, even if the court was correct in concluding that plaintiff was not entitled to any damages.

With respect to the motion for a permanent injunction, plaintiff argues that it is still entitled to one because it has proven that some of defendants' sales of the accused products violated § 271(a) and § 271(f)(1). However, even if I agreed with plaintiff that some unspecified amount of defendants' sales fall within § 271(a) or § 271(f)(1), plaintiff points to no findings by this court or the jury that would allow the court to determine what the proper scope of any injunction

should be. Although plaintiff performs a detailed exegesis of the court's summary judgment opinion and its own summary judgment briefs in an attempt to show that the court resolved the issue of infringement at summary judgment, plaintiff never asked in its summary judgment motion that the court find that any particular act by defendants violated § 271(a) or § 271(f)(1) with respect to a particular accused product. Plaintiff says that defendants waived the issue by failing to raise it in their summary judgment opposition materials, but proving violations of these provisions was plaintiff's burden, not defendants', so it is not clear why defendants would have the obligation to raise an issue that was not included in plaintiff's summary judgment motion.

The same is true of the jury verdict. Plaintiff did not ask for a jury question on the extent to which defendants violated § 271(a) or § 271(f)(1) with respect to particular accused products. Plaintiff fails to explain in any of its briefs under what authority the court could issue an injunction in the absence of those findings. (Plaintiff does not develop an argument that the court could enjoin defendants' activities regarding a particular product without a corresponding finding that defendants violated § 271(a), § 271(f)(1) or some other provision of the patent statute with respect to that product, so I do not consider that question.) Although plaintiff asks for a new trial to fill in any gaps, plaintiff is not entitled to a do-over when it was plaintiff's own failure to request more specific findings in the verdict form that caused the problem.

With respect to plaintiff's request for attorney fees under 35 U.S.C. § 285, I see no reason to reconsider the denial of that request. Because plaintiff has not shown that it is entitled to damages or an injunction,

I cannot find plaintiff has shown that this is an "exceptional" case that would justify an award of attorney fees.

D. Newly Discovered Evidence

Plaintiff says that defendants provided information in the context of arbitration proceedings that they should have provided in the context of this case and that, if plaintiff had obtained that information before the trial, the result of this case would have been different. In particular, plaintiff says that defendants' "bills of materials" and "business objects data" spreadsheets would help prove the extent of defendants' United States sales.

Plaintiff brings this motion under Fed. R. Civ. P. 60(b)(2), which applies when the party has "newly discovered evidence that, with reasonable diligence, could not have been discovered in time to move for a new trial under Rule 59(b)." However, it is undisputed that plaintiff obtained the evidence at issue in August 2012 and plaintiff's time for filing a Rule 59 motion expired 28 days after the court entered an amended judgment in September 2012, but plaintiff did not file its Rule 60 motion until December 2012. In its opening brief, plaintiff fails to explain why it could not have raised this issue earlier. It says only that the "meaning [of the evidence] was not fully explained until [November 2012] at the Rule 30(b)(6) depositions of Defendants' witnesses." Dkt. #728 at 13. *See also id.* at 26. This conclusory statement does not satisfy plaintiff's "extraordinary" burden under Rule 60(b)(2) to show that it could not have discovered the evidence it needed by October 2012. *Musch v. Domtar Industries, Inc.*, 587 F.3d 857, 861 (7th Cir. 2009). Although plaintiff attempts to provide more explanation in its reply brief, that effort comes too late. *Casna*

v. City of Loves Park, 574 F.3d 420, 427 (7th Cir. 2009). In any event, plaintiff never argues that the new evidence shows that all of defendants' sales after 2006 fall within § 271(a) or § 271(f)(1), which was the question addressed in defendants' Rule 50 motion.

To the extent plaintiff means to argue that it would have used the evidence at trial to show that the jury could award a lesser amount of damages, I have concluded that plaintiff has forfeited that argument. Further, plaintiff does not persuasively rebut defendants' arguments that the discovery it obtained after trial would not have made any difference because plaintiff did not make use at trial of the geographical information it already had, that plaintiff knew during the trial about the existence of the documents it later obtained but failed to ask for them and that plaintiff has failed to point to any discovery request in this case that would have required defendants to produce the documents at issue. Accordingly, I am denying plaintiff's motion under Rule 60(b)(2).

ORDER

IT IS ORDERED that

1. Plaintiff Promega Corporation's "motion for amendment of, or relief from, judgment regarding damages, or, in the alternative, for a new trial," dkt. #693, is DENIED.

2. Plaintiff's "motion for amendment of, or relief from, the judgment with respect to infringement, permanent injunction, and exceptional case finding, or, in the alternative, a new trial," dkt. #690, is DENIED.

3. Plaintiff's "motion for relief from the amended judgment based on newly discovered evidence and for a new trial," dkt. #727, is DENIED.

4. Plaintiff's motion for oral argument, dkt. #697, is DENIED.

5. The motion filed by defendants Life Technologies Corporation, Invitrogen IP Holdings, Inc. and Applied Biosystems, LLC to "strike" portions of plaintiff's reply briefs in support of the first two motions, dkt. #741, is DENIED as unnecessary.

Entered this 22d day of April, 2013.

BY THE COURT:

/s/

BARBARA B. CRABB
District Judge

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Supreme Court, U.
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IN THE

Supreme Court of the United States

LIFE TECHNOLOGIES CORPORATION; INVITROGEN IP HOLDINGS, INC.; APPLIED BIOSYSTEMS, LLC,

Petitioners,

v.

PROMEGA CORPORATION,

Respondent.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF FOR PETITIONERS

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QUESTION PRESENTED

35 U.S.C. § 271(f)(1) provides that it is an act of patent infringement to "suppl[y] . . . in or from the United States all or a substantial portion of the components of a patented invention, . . . in such manner as to actively induce the combination of such components outside the United States." Despite this Court's clear dictate that section 271(f) should be construed narrowly, *Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437 (2007), the Federal Circuit held that Life Technologies is liable for patent infringement for worldwide sales of a multi-component kit made abroad because just a single, commodity component of the kit was shipped from the U.S. The question presented is:

Whether the Federal Circuit erred in holding that supplying a single, commodity component of a multi-component invention from the United States is an infringing act under 35 U.S.C. § 271(f)(1), exposing the manufacturer to liability for all of its worldwide sales.

PARTIES TO THE PROCEEDINGS

Petitioners, Life Technologies Corporation, Invitrogen IP Holdings, Inc., and Applied Biosystems, LLC, were the defendants-appellants below.

Respondent, Promega Corporation, was the plaintiff-cross-appellant below.

RULE 29.6 STATEMENT

Applied Biosystems, LLC, and Invitrogen IP Holdings, Inc., are wholly-owned subsidiaries of Life Technologies Corporation. Life Technologies Corporation is an indirect wholly-owned subsidiary of Thermo Fisher Scientific Inc. There is no other publicly held corporation owning 10% or more of the securities of petitioners.

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Margrethe Vestager, Commissioner, 19th IBA Competition Conference, Intellectual Property and Competition (Sept. 11, 2015), https://ec.europa.eu/commission/2014-2019/vestager/announcements/intellectual-property-and-competition_en 31

OPINIONS BELOW

The Federal Circuit's opinion is reported at *Promega Corp.* v. *Life Technologies Corp.*, 773 F.3d 1338 (Fed. Cir. 2014), and is reproduced at Petition Appendix (Pet. App.) 1a–43a. The unpublished order denying the petition for rehearing and rehearing en banc is reproduced at Pet. App. 67a–68a. The district court's unpublished opinion is reproduced at Pet. App. 44a–66a.

JURISDICTION

The Federal Circuit entered its judgment on December 15, 2014, and denied a timely-filed petition for rehearing and rehearing en banc by order dated February 26, 2015. On April 22, 2015, Chief Justice Roberts extended the time within which to file a petition for a writ of certiorari to and including June 26, 2015. The petition was filed on June 26, 2015, and was granted on June 27, 2016. This Court has jurisdiction over this case pursuant to 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS

35 U.S.C. § 271(f) provides:

> (1) Whoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

(2) Whoever without authority supplies or causes to be supplied in or from the United States any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

INTRODUCTION

United States patent law has never been intended to restrict the free flow of goods throughout the world. Indeed, the "presumption that United States law governs domestically but does not rule the world" applies "with particular force in patent law." *Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437, 454–55 (2007). Congress created a narrow exception to this general rule against extraterritoriality to prevent parties from evading the legitimate territorial reach of U.S. patent law. In 35 U.S.C. § 271(f)(1), Congress defined infringement to include conduct within the United States that all but amounts to infringement, when that conduct is coupled with actively inducing conduct overseas that would be infringement if it occurred within the U.S. The statute's text, structure and history evince that narrow scope and purpose. This Court's prior rulings also emphasize that narrow scope and purpose, and underscore the importance of limiting the extraterritorial reach of U.S. patent law.

In this case, the Federal Circuit badly misinterpreted § 271(f)(1), transforming the narrow exception to the rule against extraterritoriality into a basis for claiming worldwide patent damages whenever any commodity component of a product was sourced from the U.S., even if the product has no other connection to the U.S. The court held that respondent was entitled to infringement damages based on Life Technologies' *worldwide* sales of genetic testing kits, notwithstanding that the only connection the court found between Life Technologies' foreign sales and the United States was that Life Technologies shipped a single, commodity component of the multi-component kits from the United States to its manufacturing facility abroad, where the kits were assembled. The Federal Circuit's rule places U.S. patent law restrictions on products across the globe based on domestic conduct that bears no resemblance to domestic infringement, and does not even come close to what might amount to infringement. No principle of statutory interpretation supports that ruling. It should be reversed.

The text of § 271(f)(1) is narrow. It provides liability only when the defendant supplies "all or a substantial portion of the components of a patented invention" from the U.S. and "actively induce[s] the combination of such components" overseas in a manner that would infringe if the components were so combined within the U.S. The Federal Circuit divorced the phrase "substantial component" from its anchor "all," and misread it to apply broadly to any individual component that is "important" to the operation of the patented device. But the phrase "substantial portion" plainly refers to the quantity, not the subjective importance, of any components supplied. Especially when read in context with "all," the

phrase means a large percentage closely approximating all.

This interpretation becomes even more compelling when the structure of the statute is considered. Section 271(f)(1)'s companion provision, § 271(f)(2), specifies the circumstances under which the qualitative aspect of a single component sourced from the U.S. can be the basis of infringement. Section 271(f)(2) authorizes infringement liability for the supply of a single component, but only if it is "especially made or especially adapted for use in the invention and not a staple article or commodity of commerce." And while § 271(f)(2) consistently uses the term "component" in the singular, § 271(f)(1) consistently uses the term "components" in the plural. When these provisions are read together, it is clear that Congress did *not* intend to impose liability for the supply of a single component unless it was especially made or adapted for infringement and not a "staple article or commodity of commerce." Indeed, this Court has previously noted that § 271(f)(1) and § 271(f)(2) "differ, among other things, on the quantity of components that must be 'supplied from the United States' for liability to attach." *Microsoft*, 550 U.S. at 454 n.16 (alterations omitted).

The Federal Circuit's interpretation is also directly contrary to this Court's explicit instruction that § 271(f) should be narrowly interpreted in light of the presumption against extraterritoriality. *Id.* at 454–55. By allowing United States patent law to intrude into foreign countries' economies when only a single commodity component is supplied from the United States, the Federal Circuit's interpretation both "impinges on legitimate foreign sovereign interests," and threatens "far-reaching implications for U.S. export trade." Brief for the United States as

Amicus Curiae ("U.S. Br.") at 18–19 (alterations omitted). Among other things, an expansive interpretation of § 271(f)(1) would create conflict between American patent law and the policy preferences of foreign sovereigns reflected in their laws, including the patent and antitrust laws of the European Union and other jurisdictions.

Finally, the Federal Circuit's interpretation should be rejected because it is contrary to the purposes and intended effect of the statute. Congress intended § 271(f) to close the "loophole" identified in *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518 (1972), and prevent manufacturers from "circumvent[ing]" U.S. patents by supplying all or a high percentage closely approximating all of the components of an invention domestically, leaving only the trivial step of assembly to be completed abroad. See S. Rep. No. 98-663, at 1, 6 (1984). Section 271(f) was not intended to penalize domestic manufacturers of commodity components based on the worldwide use of those components. Yet, unless the Federal Circuit's interpretation is rejected, such U.S. manufacturers will need to account for the unpredictable and potentially crushing burden of U.S. patent infringement liability for worldwide sales, based on the supply of *any* individual component, however common and useful for non-infringing purposes. The sweeping liability that the Federal Circuit's ruling creates for component suppliers across a broad array of industries will have the anomalous result of pushing the sourcing of components overseas, thereby eliminating manufacturing jobs and hurting raw materials industries in the U.S., directly contrary to Congress's aims and the best interests of the U.S. economy.

This Court can remain faithful to the statute's text, structure, and purpose, and can maintain the stat-

ute's role as a limited exception to the principle against extraterritoriality, by reading the phrase "all or a substantial portion of the components of a patented invention" to mean "all or a large percentage closely approximating all" of those components. Such a reading ensures a substantial amount of conduct approaching infringement occurs within the U.S., and maintains the proper focus of U.S. patent law on U.S. conduct. Such a reading also ensures that U.S. patent liability based on § 271(f)(1) will not interfere significantly with overseas conduct, which comports with the statutory text and purposes and the anti-extraterritoriality principle of U.S. patent law.

STATEMENT OF THE CASE

Life Technologies manufactures genetic testing kits, which generate DNA profiles. Pet. App. 8a. The kits are manufactured in the United Kingdom, and sold worldwide. *Id.* These kits are "useful in many fields," *id.* at 3a; for example, they are "used by law enforcement agencies for forensic identification, and by clinical and research institutions for purposes such as analyzing cancer cells," *id.* at 8a. "The kits contain a number of components, including: (1) a primer mix; (2) *Taq* polymerase; (3) PCR reaction mix including nucleotides; (4) a buffer solution; and (5) control DNA." *Id.*

Together, these components are capable of copying, or "amplif[ying]," the DNA being studied, which is necessary "in order to obtain a detectable amount of DNA for analysis." Pet. App. 3a; JA 135. The primers "mark[] the start and finish" of the area to be copied. Pet. App. 3a; JA 137–138. The nucleotides are the building blocks used to form the copies. JA 138. The buffer solution maintains the conditions needed for the copying to occur. *Id.* The control DNA

is used to verify that the copying process has occurred correctly and without contamination. JA 139. Finally, the "*Taq* polymerase is an enzyme used to amplify the DNA sequences in order to obtain enough replicated sample for testing." Pet. App. 34a; JA 136. Thus, each of the five components plays an important part in the reliable amplification and the accurate testing of DNA samples.

Promega Corporation ("Promega") sublicensed to petitioner the "Tautz patent," which covered technology for generating DNA profiles.[1] Pet. App. 7a. Claim 42 of the Tautz patent claims a "kit" for analyzing DNA samples, comprising five components, JA 127 (col. 16: ll. 45–61):

> (a) at least one vessel containing a mixture of primers constituting between 1 and 50 of said primer pairs;
>
> (b) a vessel containing a polymerizing enzyme suitable for performing a primer-directed polymerase chain reaction;
>
> (c) a vessel containing the deoxynucleotide triphosphates adenosine, guanine, cytosine, and thymidine;
>
> (d) a vessel containing a buffer solution for performing a polymerase chain reaction;

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[1] Promega sued Life Technologies for infringement of five patents that it owned or licensed. The Federal Circuit held that four of those patents were invalid on the ground of nonenablement. Pet. App. 13a–22a. The holding at issue here involves the remaining patent, No. RE 37,984 (the "Tautz patent"), of which Promega was a non-exclusive licensee in some fields and an exclusive licensee in others. *See id.* at 5a. The Tautz patent has expired, but damages concerning alleged infringement before the expiration of the patent in June 2015 are at issue, *see* 35 U.S.C. § 286; JA 165.

> (e) a vessel containing a template DNA . . . for assaying positive performance of the method.

The Tautz patent teaches the use of a mixture of primers with the ability to select particular sequences of DNA (known as "short tandem repeats") that predictably vary between individuals, and thus can be reliably used to identify individuals. JA 119–121; Pet. App. 2a–3a, 7a.

Life Technologies "manufactures one component of its kits in the United States, the *Taq* polymerase, which it ships overseas to a LifeTech manufacturing facility in the United Kingdom." Pet. App. 8a. The *Taq* polymerase is a standard enzyme that has long been widely used in a variety of applications that require copying DNA sequences. JA 120 (Tautz patent issued in 1998); see, *e.g.*, Kary B. Mullis, *The Unusual Origin of the Polymerase Chain Reaction*, 262 Sci. Am. 56, 65 (Apr. 1990) (describing the common use of *Taq* polymerase in DNA amplification, and how the "polymerase is now produced conveniently by genetically engineered bacteria"); JA 159 (*Taq* polymerase is "widely used in research, in sequencing, in gene expression"). Thus, it is undisputed that *Taq* polymerase is a commodity component with many non-infringing uses, and is not especially made or especially adapted for use in the invention at issue. Pet. App. 30a n.14.

Other components for the foreign-sold kits, including the control DNA and the reaction mix, are manufactured in the United Kingdom. JA 158. Some of those other U.K.-made components use supplies sourced from the U.S. For instance, one of the patent's components is "at least one vessel containing a mixture of primers constituting between 1 and 50 of said primer pairs." JA 127 (col. 16: ll. 45–46). The primer mix component used in the foreign-made Life

Technologies kits "in many cases requires 30-plus primers." JA 157–158. Some of those primers are made in the United States, while many of them are manufactured in the United Kingdom. JA 154–159. Moreover, the process of creating the primer mix component used in the kits from raw primers is highly "complex and important . . . to make sure the kits work accurately." JA 158. Manufacturing the primer-mix and other components and creating the finished kits is a "very specialized" process, requiring a "dedicated facility" that must be maintained in a hyper-sterilized state "in order to reduce the risk of contamination," which would render the DNA tests unreliable. JA 157. The manufacture of Life Technologies' primer-mix component, like the manufacture of the finished, foreign-sold product, occurs in the United Kingdom facility.

Life Technologies had a license from Promega to use the patented technology for certain applications. Pet. App. 9a & n.3. Promega sued Life Technologies in 2010, alleging that it had infringed the patent by selling its kits into unlicensed fields. *Id.* at 9a. Promega "took an 'all or nothing' approach at trial," seeking to capture damages for all *worldwide* sales of Life Technologies' accused products, based only on United States patents. JA 173–174. Accordingly, Promega "relied on the assumption that *all* of the accused products defendants sold during the relevant time frame . . . were made in the United States, imported into the United States or made with a substantial portion of components from the United States, as required by § 271(a) and (f)(1)." Pet. App. 45a. The jury returned a verdict for Promega, found that Life Technologies' infringement was willful, and awarded damages for "all of LifeTech's worldwide sales." *Id.* at 11a.

Life Technologies moved for judgment as a matter of law, on the ground that Promega had failed to present sufficient evidence to sustain a jury verdict under § 271(f)(1), the only provision that could reach Life Technologies' worldwide sales of kits manufactured abroad. Pet. App. 51a–63a. The district court granted the motion, ruling that Life Technologies had not infringed under § 271(f)(1) because Promega's evidence "showed at most that *one* component of all the accused products, [the *Taq*] polymerase, was supplied from the United States." *Id.* at 51a.

The district court held that § 271(f)(1)'s requirement that "all or a substantial portion" of the components be supplied from the United States does not embrace the supply of a single component. Pet. App. 54a–57a. Section 271(f)(1), the court ruled, could not plausibly be interpreted to reach a single component "when viewed in conjunction with . . . § 271(f)(2)," which "extends to 'any component' of the invention" supplied from the U.S., but requires that the component be "especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use." Pet. App. 54a–55a. The court further observed that this Court's decision in *Microsoft* supported its ruling for two reasons. First, *Microsoft* stated that § 271(f)(1) and (f)(2) "'differ, among other things, on the quantity of components that must be supplied.'" *Id.* at 55a–56a (quoting *Microsoft*, 550 U.S. at 454 n.16). Second, this Court "concluded that it was improper to use policy concerns about 'loopholes' to justify broad interpretations of the patent statute," particularly given "the presumption that 'our patent law operates only domestically and does not extend to foreign

activities.'" *Id.* at 56a (quoting *Microsoft*, 550 U.S. at 455). Because Promega "failed as a matter of law to prove that all of the accused products . . . included a 'substantial portion' of components from the United States," the district court granted judgment as a matter of law to Life Technologies. *Id.* at 58a.[2]

The Federal Circuit reversed. As relevant here, the court "disagree[ed] with the district court's reading of § 271(f)(1)." Pet. App. 23a. The Federal Circuit held that "a party may be liable under § 271(f)(1) for supplying or causing to be supplied a single component for combination outside the United States." *Id.* at 28a. The court concluded that the relevant "dictionary definition of 'substantial' is 'important' or 'essential,'" and thus "the ordinary meaning of 'substantial portion' suggests that a single important or essential component can be a 'substantial portion of the components' of a patented invention." *Id.* at 28a–29a.

The court further reasoned that "the use of 'component' in § 271(f)(2) does not control the meaning of 'components' in § 271(f)(1)" because "these two subsections employ the terms in different contexts"; § 271(f)(2) focuses on whether a component is "especially made or especially adapted" for infringing use, while § 271(f)(1) focuses on whether components are "substantial." Pet. App. 30a. The Federal Circuit disregarded *Microsoft*'s contrary statement as dicta, concluding that "[i]n the absence

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[2] The district court stated that Promega "adduced evidence that *some* of the accused products include two components from the United States," but even if so, that did not matter. Pet. App. 51a. Any such evidence could not support the judgment because Promega "did not attempt to quantify the sales of those accused products," instead choosing to "adduce evidence only as to defendants' *total* worldwide sales." *Id.* at 52a.

of express guidance by the Supreme Court, we will not contravene the ordinary reading of the statute and categorically exclude the 'supply' of a single component of a patented invention from the scope of § 271(f)(1)." *Id.* at 33a. Finally, the court ruled that *Taq* polymerase is a "substantial portion of the components of a patented invention," even though it is only one commodity component out of the five in the kit claimed by the patent, because "[w]ithout *Taq* polymerase, the genetic testing kit recited in the Tautz patent would be inoperable." *Id.* at 34a.[3]

SUMMARY OF THE ARGUMENT

This Court should reject the Federal Circuit's interpretation of "all or a substantial portion of the components," as allowing liability based on any individual U.S.-sourced component that is "important" or "essential" to the operation of the U.S.-patented device. That interpretation is contrary to the text and structure of the statute, the presumption against extraterritoriality, and the statutory purposes. All of the tools of statutory construction support the view that "all or a substantial portion of the components" means "all or a large percentage closely approximating all of the components." In the case at hand, one of five components, *Taq* polymerase, of Life Technologies' kits is far less than a "substantial portion of the components" and, therefore, this Court should reverse the Federal Circuit's interpretation.

First, the plain text of the statute supports giving the phrase "all or a substantial portion of the compo-

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[3] Chief Judge Prost dissented but did not reach the issue under review because she would have found that Life Technologies was "not liable under § 271(f)(1) for active inducement." Pet. App. 39a n.1.

nents" a quantitative meaning, referring to the number of components supplied, not their subjective importance. The phrase "substantial portion" should be read in light of its proximity to the necessarily quantitative term "all." A textual reading with quantitative meaning gains even more strength from comparing § 271(f)(1) with its companion provision. In § 271(f)(2), Congress expressly addressed when a single U.S.-sourced component may be the basis of patent infringement arising from foreign sales. Congress required such a single U.S.-sourced component to be especially made or adapted for infringement; liability cannot be based on a single, commodity component. Section 271(f)(2) demonstrates that Congress did not intend to create liability for the supply of a single commodity component, even if it is important to the operation of the claimed invention. As the United States recognizes, the most natural reading of "all or a substantial portion" is all or "a high percentage (*i.e.*, nearly all) of the components." U.S. Br. 20.

Second, the Federal Circuit's interpretation cannot be squared with the presumption against extraterritoriality. In *Microsoft* v. *AT&T*, this Court instructed other courts to "resist giving . . . § 271(f) an expansive interpretation," applying the presumption that United States patent law "governs domestically but does not rule the world." 550 U.S. at 442, 454. The Federal Circuit's interpretation, which stretches the statute far beyond its text to close what it perceived as "loopholes" in the extraterritorial reach of U.S. patent law, disregards this instruction. It also risks undermining the primacy and efficacy of foreign patent and other laws within their sovereign territories. And by making worldwide liability for infringement of U.S. patents hinge on the decision of a foreign manufacturer to source a commodity from the United

States, it also reflects a policy judgment about the degree to which U.S. patent law should control the flow of goods through foreign countries. Such decisions belong to the political branches, because they concern sensitive questions of foreign trading relations and risk retaliation by foreign governments. A reading that limits liability to cases involving all or a large percentage closely approximating all both respects the strong anti-extraterritoriality principle this Court has recognized, and leaves policy judgments about broadening the reach of patent law to the political branches.

Finally, the Federal Circuit's interpretation is contrary to the statute's purposes. Section 271 was a response to this Court's decision in *Deepsouth*, and was intended to prevent manufacturers from circumventing U.S. patents by supplying from the United States in disassembled parts all or virtually all of the components of an invention, leaving only the trivial step of assembly to be performed abroad. The Federal Circuit's interpretation, which allows for worldwide liability based on the U.S. supply of a single commodity component, goes well beyond that purpose and imposes liability for conduct that is far removed from domestic infringement. Further, while Congress intended § 271(f) to promote U.S. manufacturing, the Federal Circuit's overbroad interpretation would have exactly the opposite effect, forcing domestic manufacturers of commodity supplies to either forego selling components to foreign assemblers or to relocate offshore to mitigate or avoid U.S. liability. Either choice puts them at an economic disadvantage to their foreign competitors.

I. THE FEDERAL CIRCUIT'S INTERPRETATION OF SECTION 271(f)(1) IS CONTRARY TO THE STATUTORY TEXT AND STRUCTURE.

A. The Plain Text Of Section 271(f)(1) Demonstrates That "All Or A Substantial Portion" Has A Quantitative Meaning.

Textually, the Federal Circuit's expansive interpretation of § 271(f)(1) does not withstand scrutiny. This subsection provides that the defendant must have supplied "all or a substantial portion of the components of a patented invention" from the U.S. The Federal Circuit read this to mean that liability for foreign sales is triggered when the defendant has supplied *any individual component* of the invention without which the claimed invention would be inoperable. Pet. App. 28a–35a. The majority defined "substantial" in qualitative terms; according to the court, it means "important" or "essential." *Id.* at 28a (citing, *e.g.*, *Webster's Third New Int'l Dictionary* 2280 (2002); *XVII Oxford English Dictionary* 67 (2d ed. 1989) ("essential; material")). Accordingly, the Federal Circuit concluded that "the ordinary meaning of 'substantial portion' suggests that a single important or essential component can be a 'substantial portion of the components.'" *Id.* at 28a–29a. And, the court then held, an essential component is nothing more than a component without which the invention "would be inoperable." *Id.* at 34a.

This holding does violence to the plain text of § 271(f)(1). First, the interpretation is so broad as to render the "substantial portion" limitation all but meaningless. The phrase "substantial portion" modifies "components of a patented invention." 35 U.S.C.

§ 271(f)(1). A component of a patented invention will rarely, if ever, be unnecessary to the functioning of that invention. Indeed, if the patent-embodying product could operate effectively without the component, it is questionable whether the supposed "component" would be a part of the "patented invention" at all. Here, for instance, the patented genetic testing kit would not be able to test DNA samples reliably if any one of its five components were removed. See 6-7, *supra*. By reading "substantial portion of the components" of an invention to mean "any individual component necessary to the operation of the invention," the Federal Circuit has made virtually *every* component of a patented invention, by itself, a "substantial portion of the components" of that invention. If that were the purpose of the language, then Congress would have simply written "any component of a patented invention," rather than choosing "substantial portion" that so clearly denotes a narrower meaning.

The way to make sense of the phrase "substantial portion" in this context is to read the word "substantial" in a quantitative sense, not in a qualitative sense. While the word "substantial" can mean "important," it is also commonly used to mean "large" or "ample" in quantity. See, *e.g.*, *The Random House College Dictionary* 1310 (1982) ("of ample or considerable amount, quantity, size, etc."); *Webster's New Twentieth Century Dictionary* 1817 (2d ed. 1981) ("of considerable size or amount; large"); 2 *Compact Edition of the Oxford English Dictionary* 3129 (1980) ("[o]f ample or considerable amount, quantity, or dimensions"); *Webster's Third New International*

Dictionary 2280 (1981) ("abundant; plentiful" (capitalization omitted)).

That is clearly the way § 271(f)(1) uses the word. The term "substantial portion" follows the quantitative term "all," in the phrase "all or a substantial portion of the components." 35 U.S.C. § 271(f)(1). As the United States explains, this phrasing "makes clear that the provision uses the term 'substantial' in its quantitative sense," to refer to the *number* of components exported, rather than their qualitative importance. U.S. Br. 16. "[A] word is known by the company it keeps," *Yates* v. *United States*, 135 S. Ct. 1074, 1085 (2015) (plurality), and the surrounding words in § 271(f)(1), including "all" and "portion," are plainly quantitative in nature. See U.S. Br. 16–17. When paired with a plural noun such as "components," the word "all" has the quantitative meaning "[t]he entire or total number, amount, or quantity of." *The American Heritage Dictionary of the English Language* 33 (1978); see *Webster's Third New International Dictionary* 54 ("the whole number or sum of"); 1 *Compact Edition of the Oxford English Dictionary* 57 (1980) ("[t]he entire number of; the individual components of, without exception"). The term "portion" is also quantitative, referring to "[a] section or quantity within a larger thing; a part of a whole." *Webster's New Dictionary and Roget's Thesaurus* 550 (1984); *Webster's Third New International Dictionary* 1768 ("a part of a whole"); 2 *Compact Edition of the Oxford English Dictionary* 2245 ("[a] part of any whole").

Thus, when used in the phrase "all or a substantial portion," the term "substantial" naturally refers to quantity, not a part that is qualitatively "important." Taken as a whole, the phrase refers to all components

of an invention or a quantitatively large percentage of the components. Further, as the United States explains, the conjunction of "all" with a "substantial portion" suggests that a portion is "substantial" only when it constitutes "a high percentage (*i.e.*, nearly all) of the components." U.S. Br 20; *United States* v. *Williams*, 553 U.S. 285, 294 (2008) ("a word is given more precise content by the neighboring words with which it is associated").

The use of the same phrasing in other federal statutes similarly demonstrates that "all or a substantial portion" has a quantitative meaning. For example, the Hydroelectric Power Development Act states that the "total non-Federal obligation shall be paid . . . [when] the project concerned will be available for actual generation of *all or a substantial portion* of the authorized hydroelectric power of the project." 42 U.S.C. § 1962d-14a(g)(1) (emphasis added). While no court has interpreted the phrase, it is clear that the statute is referring to the quantity of hydroelectric power, not its importance. Other statutes similarly use the phrase in quantitative terms. 37 U.S.C. § 419 (Pay and Allowance of the Uniformed Services) (officer "may be paid a civilian clothing allowance . . . if such officer is required to wear civilian clothing *all or a substantial portion* of the time in the performance of the officer's official duties") (emphasis added); 26 U.S.C. § 4252 ("the term 'toll telephone service' means . . . a service which entitles the subscriber . . . to the privilege of an unlimited number of telephonic communications to or from *all or a substantial portion* of the persons having telephone or radio telephone stations in a specified area") (emphasis added).

The Federal Circuit therefore erred in construing "substantial" to mean "'important' or 'essential,'" and

ruling that it encompassed "a single important or essential component." Pet. App. 28a–29a.

B. The Statutory Structure Confirms That Section 271(f)(1) Does Not Encompass The Supply Of A Single Commodity Component.

The errors in the Federal Circuit's interpretation become particularly clear when the structure of the statute is considered. See *K Mart Corp.* v. *Cartier, Inc.*, 486 U.S. 281, 291 (1988) ("In ascertaining the plain meaning of the statute, the court must look to the particular statutory language at issue, as well as the language and design of the statute as a whole"). As the United States explains, § 271(f)(2) expressly "specifies the circumstances in which the export of a single component from the United States can give rise to infringement liability," U.S. Br. 17: liability can be imposed for such conduct *only* if the component is "especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use"—a limitation that is conspicuously absent from § 271(f)(1). 35 U.S.C. § 271(f)(2); see *id.* § 271(c) (similarly limiting liability for contributory infringement to a component that is "not a staple article or commodity of commerce suitable for substantial noninfringing use"). The fact that Congress used the phrase "any component" in § 271(f)(2), and then limited liability to the provision of a specialized component, is a powerful, if not overwhelming, reason to reject the Federal Circuit's re-writing of § 271(f)(1) as if it, too, used the phrase "any component."

Section 271(f)(1) also consistently refers to "components" in the plural, for instance providing for liability "where *such components are uncombined* in

whole or in part," and are supplied to "induce the combination of *such components*." *Id.* § 271(f)(1) (emphases added). In marked contrast, § 271(f)(2) consistently refers to "component" in the singular. For instance, § 271(f)(2) provides for liability "where *such component is uncombined* in whole or in part" and is supplied "intending that *such component* will be combined." *Id.* § 271(f)(2) (emphases added). These differences in the language of the two subsections that were enacted at the same time demonstrate that Congress did not intend § 271(f)(1) to include the supply of a single component. See 1 U.S.C. § 1 (plural terms include the singular "*unless the context indicates otherwise*") (emphasis added); *United States* v. *Hayes*, 555 U.S. 415, 422 n.5 (2009) (same).

The Federal Circuit concluded that the phrase "where such components are uncombined" in § 271(f)(1) does not mean that multiple components must be supplied from the United States because it "refer[s] to 'the components of a patented invention,' not to what must be 'supplied' by the alleged infringer." Pet. App. 29a. But § 271(f)(2) "employs the same phrasing" while using the singular. *Id.* at 55a. The singular phrase "where such component is uncombined" must refer to the component supplied from the United States, not to all components of the invention, because a single-component invention could never be "uncombined." *Id.* Likewise, the phrase "such components" in § 271(f)(1) refers back to the previously referenced "components" which are "supplied in or from the United States." See A. Scalia & B. Garner, *Reading Law: the Interpretation of Legal Texts* 144-46 (2012) (a "demonstrative adjective generally refers to

the nearest reasonable antecedent"; "such" is a "demonstrative adjective").[4]

These differences in the language of § 271(f)(1) and (f)(2) are all the more revealing because the two subsections were drafted together, and added to the Patent Act as part of the same bill. 130 Cong. Rec. H10522 (daily ed. Oct. 1, 1984). Under these circumstances, the "differing language in the two subsections" should not be "ascribe[d] . . . to a simple mistake in draftsmanship" and given "the same meaning in each." *Russello* v. *United States*, 464 U.S. 16, 23 (1983). To the contrary, when § 271(f)(1) and (f)(2) are read side by side, it is clear that Congress chose not to expose domestic suppliers of a single component to liability for foreign sales, so long as that component is a "staple article or commodity of commerce" with a "substantial noninfringing use." 35

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[4] The Federal Circuit rejected this interpretation because it concluded that § 271(f)(1)'s reference to "the combination of such components outside the United States in a manner that would infringe the patent" showed that the phrase "such components" must include all the components of the invention. Pet. App. 29a. Again, the phrasing of § 271(f)(2)—which refers to "such component" in the singular being "combined outside of the United States in a manner that would infringe the patent"—demonstrates the fallacy of this interpretation. The phrase clearly refers to the "combination" of "such components" supplied from the U.S. with any other components of the invention supplied abroad, to form the entirety of the invention. The requirement that components be combined outside the U.S. thus serves to draw the line between § 271(f) and § 271(a): if the components supplied from the United States are uncombined with the remainder of the invention at least in part, then § 271(f) controls. On the other hand, if all of the components of a patented invention are combined in the United States, the question becomes whether the defendant "makes . . . any patented invention, within the United States" within the meaning of § 271(a).

U.S.C. § 271(f)(2). The Federal Circuit's construction of section 271(f)(1) to nonetheless "permit liability based on the supply of a single staple article would give that provision the broad sweep that Congress purposely avoided in Section 271(f)(2)." U.S. Br. 18.

The Federal Circuit reasoned that the language of § 271(f)(2) should not inform its interpretation of § 271(f)(1) because "these two subsections employ the terms in different contexts." Pet. App. 30a. "The focus of the infringement inquiry under § 271(f)(1) is whether one or more components supplied by a party constitutes 'all or a substantial portion of the components of a patented invention . . . .'" *Id.* By contrast, according to the Federal Circuit, "the focus of the infringement inquiry under § 271(f)(2) is whether a party has supplied any component 'especially made or especially adapted for use in [a patented] invention'" that is not a "staple article or commodity of commerce suitable for substantial noninfringing use." *Id.*

The fact that the two provisions concern different, but related, situations strengthens the view that "substantial" should not be read in a qualitative sense in (f)(1), and should not be interpreted to apply when only a single component is supplied from the U.S. Nobody denies that (f)(2) specifically addresses how to deal with a product that includes a single component supplied from the U.S., and nobody denies that it requires a qualitative analysis of that single component. Liability can be found only if that component is "especially made or especially adapted for use" in an invention. The fact that (f)(1) is different means that it should not be read as virtually synonymous with (f)(2). Any component specially made or adapted for use in an infringing product covered by

(f)(2) would qualify as an "important" individual component under the Federal Circuit's interpretation of (f)(1). See 15–16, *supra*. The Federal Circuit's reading thus trivializes (f)(2). Giving (f)(1) a quantitative reading preserves the different but related roles that Congress intended the two provisions to play.

This Court's prior encounter with § 271(f) also confirms that a quantitative reading of (f)(1) is the most natural reading. In *Microsoft*, this Court expressly noted that § 271(f)(1) and (f)(2) "differ, among other things, on the quantity of components that must be 'supplie[d] . . . from the United States' for liability to attach." 550 U.S. at 454 n.16 (alterations in original). In the same vein, this Court noted that "§ 271(f)(1) applies to the supply abroad of 'all or a substantial portion of' a patented invention's components," while "§ 271(f)(2) applies to the export of *even a single component* if it is 'especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use.'" *Id.* at 458 n.18 (emphasis added). To be sure, those statements were not essential to the Court's holding. But they powerfully reflect the most natural way to read these two related subsections.

The Federal Circuit concluded that this interpretation was "undermined by the very facts of *Microsoft*," because there the "alleged infringing activity under § 271(f) was a party's export of a single component of this two-component invention," but *Microsoft* did not resolve the case by holding "that liability under § 271(f)(1) requires the export of more than one component." Pet. App. 32a–33a (emphasis omitted). The parties in *Microsoft* did not argue that only a single component was involved, and the Court did not

consider the issue; instead, it held that the software in question was not a "component" at all (a logically antecedent question to *how many* components are involved). The question presented in that case accordingly did not "turn on whether [the Court] view[ed] the case under paragraph (1) or (2)." *Microsoft*, 550 U.S. at 454 n.16. As a result, nothing in the disposition of *Microsoft* undermines the quantitative reading of (f)(1) that *Microsoft* itself recited.

Because the Federal Circuit's interpretation does not comport with the text or the structure of the statute, this Court should reject it and hold that the phrase "all or a substantial portion of the components" in § 271(f)(1) refers to a quantitatively large portion approaching all of the components of the invention.

II. THE FEDERAL CIRCUIT'S INTERPRETATION OF SECTION 271(f)(1) IS CONTRARY TO THE PRESUMPTION AGAINST EXTRATERRITORIALITY.

This Court has explained that, because "§ 271(f) is an exception to the general rule that our patent law does not apply extraterritorially," courts should "resist giving the language in which Congress cast § 271(f) an expansive interpretation." *Microsoft*, 550 U.S. at 442. The presumption against extraterritoriality is overcome only if "'there is the affirmative intention of the Congress clearly expressed' to give a statute extraterritorial effect," and where a statute provides "for some extraterritorial application, the presumption against extraterritoriality operates to limit that provision to its terms." *Morrison* v. *Nat'l Austl. Bank Ltd.*, 561 U.S. 247, 255, 265 (2010).

This "presumption that United States law governs domestically but does not rule the world applies with particular force in patent law." *Microsoft*, 550 U.S. at 454–55; see *Brown* v. *Duchesne*, 60 U.S. (19 How.) 183, 195 (1856) (Patent law "is domestic in its character, and necessarily confined within the limits of the United States. It confers no power on Congress to regulate commerce, or the vehicles of commerce, which belong to a foreign nation . . . ."); J. Erstling & F. Struve, *A Framework for Patent Exhaustion from Foreign Sales*, 25 Fordham Intell. Prop. Media & Ent. L.J. 499, 508–12 (2015). The "traditional understanding that our patent law operates only domestically and does not extend to foreign activities is embedded in the Patent Act itself, which provides that a patent confers exclusive rights in an invention within the United States." *Microsoft*, 550 U.S. at 455 (citations and alterations omitted) (citing 35 U.S.C. § 154(a)(1)). The text of the Patent Act is expressly territorial: it confers exclusive rights "throughout the United States," bars importation "into the United States," and establishes liability for infringement "within the United States." 35 U.S.C. §§ 154(a)(1), 271(a).

The territorial nature of United States patent law also reflects international obligations, dating back to the 1883 Paris Convention, which provide that the legal force of a patent issued in one country is limited to that country.[5] In short, the United States does not

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[5] Paris Convention for the Protection of Industrial Property art. 4*bis*, Mar. 20, 1883 ("Independence of Patents Obtained for the Same Invention in Different Countries: (1) Patents applied for in the various countries of the Union . . . shall be independent of patents obtained for the same invention in other countries . . . ."); *Voda* v. *Cordis Corp.*, 476 F.3d 887, 898–99 (Fed.

exercise patent control over foreign markets, and it "correspondingly reject[s] the claims of others to such control over our markets." *Microsoft*, 550 U.S. at 455 (quoting *Deepsouth*, 406 U.S. at 531). The remedy for infringement that occurs abroad lies in "obtaining and enforcing foreign patents," *id.* at 456, not in interpreting United States patent law to "rule the world," *id.* at 454.

While § 271(f) extends U.S. patent law into foreign markets in a very limited way, it does not otherwise alter the fundamental principle that U.S. patent law "does not, and was not intended to, operate beyond the limits of the United States." *Id.* at 455 (alterations omitted) (quoting *Deepsouth*, 406 U.S. at 531). Therefore, as this Court has emphasized, the market exclusivity bestowed by a patent should not be expanded extraterritorially based on "mere inference from ambiguous statutory language." *Deepsouth*, 406 U.S. at 531. "Any doubt" that particular "conduct falls outside § 271(f)'s compass would be resolved by the presumption against extraterritoriality." *Microsoft*, 550 U.S. at 454. The Federal Circuit's expansive interpretation of § 271(f)(1) is flatly inconsistent with this presumption and with this Court's holding in *Microsoft*. See Sean Fernandes, Microsoft Corp. v. AT&T: *A Welcome Return to Patent Law's Tradition of Territoriality*, 23 Berkeley Tech. L.J. 75, 105 (2008).

The Federal Circuit suggested that the presumption is inapplicable because "Congress' chosen language assigns liability to LifeTech's conduct within the United States, based on its extraterritorial

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Cir. 2007) (the Paris Convention "clearly expresses the independence of each country's sovereign patent systems and their systems for adjudicating those patents.").

effect." Pet. App. 27a n.10. But *Microsoft* rejected the argument that "the presumption holds no sway here given that § 271(f), by its terms, applies only to domestic conduct, *i.e.*, to the supply of a patented invention's components 'from the United States.'" 550 U.S. at 456. To the contrary, the Court held that the presumption "tugs strongly against" a broad construction of § 271(f), and that a "dynamic judicial interpretation" of the provision is impermissible. *Id.* at 455, 457.

The notion that the presumption does not apply here is particularly weak because the question in this case asks *how much* domestic conduct is necessary to trigger the prospect of U.S. patent liability when a significant quantum of foreign conduct is also occurring. There is no doubt that Promega's patent claim involves U.S. patent law regulation of foreign conduct. Life Technologies combined its kits' components "*outside the United States* in a manner that would infringe the patent if such combination occurred within the United States." 35 U.S.C. § 271(f)(1) (emphasis added). And the Federal Circuit held that Life Technologies was liable for infringing the U.S. patent through foreign sales of kits, where it supplied all but one of the kits' components from sources outside of the United States. The fact that the polymerase component was supplied from the U.S. does not render the presumption inapplicable. It raises the question whether the presumption (in conjunction with the language, structure and purpose of the statute) requires *more* domestic conduct than manufacturing and selling a single component to justify U.S. patent law's application to foreign conduct. As this Court has held, "it is a rare case of prohibited extraterritorial application that lacks *all* contact with

the territory of the United States," and "the presumption against extraterritorial application would be a craven watchdog indeed if it retreated to its kennel whenever *some* domestic activity is involved in the case." *Morrison*, 561 U.S. at 266; see *Kiobel* v. *Royal Dutch Petroleum Co.*, 133 S. Ct. 1659, 1669 (2013) ("even where the claims touch and concern the territory of the United States, they must do so with sufficient force to displace the presumption against extraterritorial application").

The Federal Circuit's interpretation of § 271(f)(1) vastly expands the extraterritorial reach of the statute. According to the Federal Circuit, § 271(f)(1) can apply even when the amount of domestic conduct at issue is trivial in comparison to the amount of foreign conduct involved. If the Federal Circuit's interpretation is sustained, the supply from the U.S. of *any* single component that is deemed "important" places under the control of U.S. patent law all goods that are manufactured abroad with all other components supplied abroad and that are sold abroad. And a component is "important" if the claimed invention "would be inoperable" without it. Pet. App. 34a. This standard is breathtakingly broad. A typical car engine cannot function without a spark plug or a battery. On the Federal Circuit's view, these stock "components" are "important" or "essential" to an invention that claims an engine with a stock spark plug or battery and an entirely separate new feature. See U.S. Br. 19. Likewise, the *Taq* polymerase at issue here is a stock component that has been commonly used for decades to copy DNA; its function in the kit is in no way innovative or specialized to the invention. See 8, *supra*. Under the Federal Circuit's standard, the supply of nearly any component from the U.S. could trig-

ger extraterritorial liability, because an invention is nothing more than the sum of the parts that make the invention work.

The point of the presumption against extraterritorial application of U.S. patent law is to prevent U.S. law from intruding on the decisions of foreign governments regarding their consumers' access to useful products. Indeed, this case illustrates the magnitude of the risks at stake—Promega was awarded $52 million in lost profits on worldwide kit sales, based on evidence that Life Technologies supplied just a single commodity component from the U.S. That ruling will inhibit the access of foreign markets to Life Technologies' kits, or, at a minimum, dramatically increase the cost of such access. Such liability would have been avoidable by simply obtaining polymerase from outside the U.S., giving companies in similar circumstances a strong incentive not to use U.S.-manufactured components. In addition, the Federal Circuit's ruling effectively allows Promega to use U.S. law as a mechanism to extend its long-expired U.K. patent; Promega's U.K. patent expired in 2009. Process for Analyzing Length Polymorphisms in DNA Domains, EP 0 438 512 (B1) (filed Oct. 11, 1989) (expired Oct. 10, 2009), https://worldwide.espacenet.com/publicationDetails/inpadoc;jsessionid=3NpcWL04hVdYiUhJQc74CtXL.espacenet_levelx_prod_3?CC=EP&NR=0438512B1&KC=B1&FT=D&ND=&date=19971229&DB=&locale=.

As the United States recognizes, the decision below thus creates precisely the situation that the presumption against extraterritoriality is designed to guard against: liability for "conduct that plays a relatively minor role in the transaction, in derogation of foreign states' legitimate sovereign interest in permitting

their citizens to use imported staple articles to assemble and sell inventions that are not patented abroad." U.S. Br. 19.

This extraterritorial expansion of U.S. patent law "would undermine the international system of national patents and lead to a type of U.S. patent imperialism." Bernard Chao, *Patent Imperialism*, 109 Nw. U. L. Rev. Online 77, 86 (2014). It risks "creat[ing] friction between States that, after having made deliberate policy choices in the best interest of their citizens, offer differing degrees of patent protections." Jacob A. Schroeder, *So Long As You Live Under My Roof, You'll Live By . . . Whose Rules?: Ending the Extraterritorial Application of Patent Law*, 18 Tex. Intell. Prop. L.J. 55, 81 (2009). Companies concerned about the manufacture and sale of products abroad could choose to sue for patent infringement in the U.S., "even if the other country has refused to award a patent for a particular invention and has consciously chosen to provide more modest recoveries to those that are awarded patents there." Chao, *supra*, at 87. Allowing companies to bypass foreign patent law by using a U.S. court to enforce U.S. patent liability for foreign manufacturing and world-wide sales thus risks undermining the primacy and effectiveness of foreign patent laws within their sovereign territories.

Inattention to the presumption against extraterritoriality also creates conflicts between U.S. law and the differing policy judgments reflected in the laws of foreign sovereigns, regarding how to balance innovation, competition, and access to beneficial goods. For instance, the Court of Justice of the European Union has consistently held that "the exercise of an exclusive right linked to an intellectual-property right by

the proprietor may, in exceptional circumstances, involve abusive conduct" under E.U. antitrust law. Case C-170/13, *Huawei Techs. Co.* v. *ZTE Corp.*, ¶ 47, http://curia.europa.eu (July 16, 2015); see Margrethe Vestager, Commissioner, 19th IBA Competition Conference, Intellectual Property and Competition (Sept. 11, 2015), https://ec.europa.eu/commission/2014-2019/vestager/announcements/intellectual-property-and-competition_en ("[I]ntellectual property rights can be used to restrict competition . . . . [and] harm consumers, who should have access to a wide range of innovative and creative goods and services at reasonable prices. Competition law can therefore complement intellectual property law in situations where the way that intellectual property law is exercised may fall short of promoting consumer welfare."). The Federal Circuit's broad interpretation of § 271(f)(1) thus creates the potential for conflicting court judgments between U.S. and foreign courts. For example, a U.S. court judgment enforcing U.S. patent liability for a product manufactured in the E.U. could lead to an E.U. court judgment that the maintenance of the U.S. suit violated E.U. antitrust law. See generally Case AT.39985, *Motorola* ¶ 1, http://ec.europa.eu (Apr. 29, 2014) (holding that Motorola violated E.U. antitrust law "by seeking and enforcing an injunction against Apple"), *id.* ¶ 514.

The Federal Circuit's expansive extraterritorial interpretation could also lead to tensions and trade conflicts with foreign sovereigns. "Clearly, the United States would be extremely upset if the circumstances were reversed and another country tried to impose its patent values on products made and sold in the U.S." Chao, *supra*, at 87. Other countries will likely be no more pleased about the extraterritorial expansion of

U.S. patent law, and may even retaliate by seeking to impose infringement liability for U.S. conduct that is perfectly lawful in the U.S. It is not hard to imagine a trading competitor with major manufacturing capabilities retaliating if it perceived U.S. patent law intruding on its preferences for the free flow of goods through its markets. Many goods manufactured and sold in the U.S. source at least some of their components abroad. The U.S. would not welcome a ruling from a foreign country that sales *in the United States* of a product that has no U.S. patent protection, but was made with a single component sourced from that country, must be priced to account for foreign patent damages. Due to the serious risk of international friction from the extraterritorial expansion of U.S. patent law, courts should not lightly infer that Congress intended such an outcome. And here, there is no "affirmative intention of the Congress clearly expressed" to give the statute such a broad extraterritorial reach. *Morrison*, 561 U.S. at 255.

The alternative interpretation Life Technologies proposes respects the presumption against extraterritoriality and minimizes the risk of trade and international legal conflicts. As discussed above, the text and structure of the statute indicate that Congress chose to require that all or a large percentage closely approximating all of the components of an invention must be sourced from the United States before liability under § 271(f)(1) may apply. That reading inverts the proportion of U.S. and foreign conduct the statute regulates compared to the Federal Circuit's view. Whereas the Federal Circuit requires only an *in*substantial amount of domestic conduct to trigger regulation of a substantial amount of foreign conduct, Life Technologies proposes a standard that requires a

substantial amount of domestic conduct to trigger regulation of an *in*substantial amount of foreign conduct.

If Congress wishes to take a more dramatic step than it already has, that is its prerogative. The political branches are well suited to gauge the degree of intrusion into foreign markets necessary to protect against evasion of U.S. patent law while giving due respect to the sovereign interests of other nations. The presumption against extraterritoriality is rooted in the recognition that courts are ill-suited to make those sensitive judgments, and so "[a]ny doubt" as to the reach of § 271(f) should be resolved by applying "the presumption against extraterritoriality." *Microsoft*, 550 U.S. at 454. The political branches can go further if they wish, but our law should not be interpreted by courts to intrude so substantially on foreign sovereign interests without clear expression from Congress. *Morrison*, 561 U.S. at 255.

III. THE FEDERAL CIRCUIT'S INTERPRETATION OF SECTION 271(f)(1) IS CONTRARY TO THE PURPOSES OF THE STATUTE.

Finally, the Federal Circuit's interpretation of § 271(f)(1) should be rejected because it is contrary to the congressional purposes animating the statute. See *King* v. *Burwell*, 135 S. Ct. 2480, 2493 (2015) ("We cannot interpret federal statutes to negate their own stated purposes.") (quoting *New York State Dep't of Social Servs.* v. *Dublino*, 413 U.S. 405, 419-20 (1973)); *Medtronic, Inc.* v. *Lohr*, 518 U.S. 470, 485 (1996) (the Court's "interpretation of [statutory] language does not occur in a contextual vacuum" but rather "is guided" by "a fair understanding of congressional purpose") (emphasis omitted).

First, the Federal Circuit misinterpreted the relationship of § 271(f) to this Court's decision in *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518 (1972). *Deepsouth* held that manufacturing all of the components of a patented invention in the U.S., and shipping them abroad to foreign customers for final assembly and sale, was not infringement. *Id.* at 523–24, 525–26. In *Microsoft*, this Court concluded that "[s]ection 271(f) was a direct response" to *Deepsouth*, and that "[h]aving attended to the gap made evident in *Deepsouth*, Congress did not address other arguable gaps," which "our precedent leads us to leave in Congress' court." 550 U.S. at 457–58; see S. Rep. No. 98-663, at 2–3 ("This provision is a response to the Supreme Court's 1972 *Deepsouth* decision which interpreted the patent law not to make it infringement where the final assembly and sale is abroad."); 129 Cong. Rec. E5777-79 (daily ed. Nov. 18, 1983) (statement of Rep. Kastenmeier) (similar).

Here, in stark contrast, the Federal Circuit concluded that Congress was motivated by broad "policy goals" of "prevent[ing] copiers from avoiding United States patents by supplying components" for assembly abroad, and that, "[t]o achieve these goals, Congress chose language for § 271(f)(1) broader than the particular facts of *Deepsouth*." Pet. App. 26a. To be sure, in *Deepsouth* all the components of the invention were sourced from the U.S., and the statute applies when "all or a substantial portion" of the components are supplied from the U.S. The statute is, in that sense, broader than the specific facts in *Deepsouth*. But this language does not show that Congress had expansive "policy goals" for § 271(f) beyond addressing the problem that *Deepsouth* identified.

In *Deepsouth*, all of the components of the invention "were manufactured in the United States by a competitor of the patent owner and shipped to Brazil in less than completely assembled form," and the customers' "[f]inal assembly in Brazil required less than one hour." S. Rep. No. 98-663, at 3. Congress was concerned that competitors could easily "circumvent a patent" by shipping all components out of the country, leaving only the trivial step of combining the components to be performed by their customers abroad. *Id.*; see *id.* (bill is intended to prevent "the subterfuge which is allowed under the *Deepsouth* interpretation of the patent law"); 129 Cong. Rec. S9005-06 (daily ed. June 23, 1983) (statement of Sen. Mathias) ("The bill also contains a provision to assure that a product patent cannot be circumvented by manufacturing the material components of the product within the United States, then assembling them and selling the finished product abroad."); 129 Cong. Rec. E5777-79 (similar).

Congress's inclusion of the supply of a "substantial portion" of components in § 271(f)(1) does not mean Congress intended to capture cases involving more than trivial amounts of foreign conduct. If Congress had drafted the provision to prohibit only the supply of *all* the components of a patented invention, the provision would not have fixed "the gap made evident in *Deepsouth*," *Microsoft*, 550 U.S. at 457–58: Manufacturers could still have easily "circumvent[ed]" the provision by supplying nearly all of the components of the patented invention, leaving their customers to procure the small remainder abroad. S. Rep. No. 98-663, at 3. But the situation at issue here—where a single commodity component is supplied from the United States, and the remainder of the highly com-

plex and specialized process of manufacturing and assembling the components is performed abroad—is altogether different from the evasion of domestic law by leaving a trivial amount of conduct to complete infringement overseas. See 8–9, *supra*. This case is plainly not the type of "circumvent[ion]" or "subterfuge" that Congress intended to prohibit. S. Rep. No. 98-663, at 3. Further, there is no indication whatsoever in the legislative history that Congress intended "all or a substantial portion" to have a qualitative meaning or to capture the supply of a single "important" commodity component. To the contrary, as the United States explains, Congress intended § 271(f)(1) to prohibit the supply of "a high percentage (*i.e.*, nearly all) of the components," which it considered "to be approximately as culpable as supplying 'all' of the components." U.S. Br. 20. In short, Congress intended § 271(f)(1) to apply when a manufacturer circumvents the patent by supplying all but an *insubstantial* or trivial portion of the components from the U.S.

In this respect, the purpose of § 271(f)(1) is similar to that of the doctrine of equivalents: preventing the "efforts of copyists to evade liability for infringement by making only insubstantial changes to a patented invention." *Festo Corp.* v. *Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 727 (2002); see *Graver Tank & Mfg. Co.* v. *Linde Air Prods. Co.*, 339 U.S. 605, 607–08 (1950) ("The essence of the doctrine [of equivalents] is that one may not practice a fraud on a patent" by making "insubstantial changes and substitutions in the patent which, though adding nothing, would be enough to take the copied matter outside . . . the reach of law"). Here, similarly, Congress intended to prevent manufacturers from evading patents by

performing nearly all of the steps of infringement in the United States, but skirting literal infringement by leaving an insubstantial portion of components to be supplied and assembled abroad. Congress did not intend to enact a sweeping extraterritorial expansion of patent law, under which the supply of nearly any commodity component could lead to liability.

Indeed, the Federal Circuit's extraordinarily broad interpretation of § 271(f)(1) will frustrate one of the major purposes of the provision—promoting and retaining U.S. manufacturing jobs. 130 Cong. Rec. at H10531 (the bill is intended to "stimulate the reindustrialization of America"); 129 Cong. Rec. E5777 (purposes of the bill include "the diminution of unemployment caused by foreign competition"); Ronald Wilson Reagan, Statement on Signing H.R. 6286 Into Law (Nov. 9, 1984) ("[The bill] also closes a loophole in existing law which permitted copiers to export jobs and avoid liability by arranging for final assembly of patented machines to occur offshore."); see also Patent Law Improvement Act: Hearing Before the Subcomm. on Patents, Copyrights, and Trademarks of the S. Comm. of the Judiciary, 98th Cong., 146-64, 180-97, 207-11 (1984) ("S. Hrg. 98-1008") (Statements of Mr. Schlicher, Mr. Maurer, and Mr. Engelberg in response to Sen. Mathias) (similar). Interpreting § 271(f)(1) narrowly, as Congress intended, serves this purpose by discouraging companies who manufacture all or nearly all of the components of an invention in the United States from moving the final manufacture of the invention itself offshore; that last step ceases to be the difference between infringement and non-infringement, and so there is nothing to gain by exporting that step.

But the vastly expanded interpretation that the Federal Circuit adopted would have precisely the opposite effect. Rather than promoting U.S. manufacturing, this sweeping interpretation gives domestic manufacturers of all manner of products strong incentives to relocate their operations offshore to avoid U.S. liability. The impact of the Federal Circuit's interpretation will be to "multiply the monetary and injunctive exposure of U.S. producers to claims of patent infringement," because any domestic supplier of a commodity product used in patented inventions will be at risk of worldwide patent infringement liability for its sales. James R. Farrand, *Territoriality and Incentives Under the Patent Laws: Overreaching Harms U.S. Economic and Technological Interests*, 21 Berkeley Tech. L.J. 1215, 1277 (2006). This would potentially include suits seeking injunctions that could disrupt the reliable flow of such commodity products to a foreign manufacturer, even where that country's law provides no basis for disrupting sales of the end product. This problem is particularly acute because the Federal Circuit interpreted "substantial" to mean nothing more than that the invention "would be inoperable" without the component at issue, Pet. App. 34a, which could cover "even minor constituent parts, like the spark plug of a car," or similar staple articles of commerce. U.S. Br. 19. The clear effect of this broad interpretation will be to "put U.S. producers at a disadvantage relative to their foreign competitors." Farrand, *supra*, at 1277.

And because the risks of § 271(f) "are easy to avoid by moving production offshore, they create strong incentives that operate directly contrary to U.S. interests." *Id.* at 1267. In other words, under the Federal Circuit's interpretation, patent law will create "one

more incentive for U.S. companies who compete in foreign markets to move their manufacturing facilities abroad." Donald S. Chisum, *Normative and Empirical Territoriality in Intellectual Property: Lessons from Patent Law*, 37 Va. J. Int'l L. 603, 607 (1997), by "treat[ing] U.S.-based companies worse than foreign companies" that manufacture the same components in foreign countries, Chao, *supra*, at 88. The Federal Circuit's interpretation will additionally harm U.S. manufacturers by discouraging foreign companies from purchasing components made in the U.S., since doing so could subject the foreign company to U.S. patent liability for worldwide sales of its product. The Federal Circuit's interpretation thus flies in the face of Congress's intent in enacting the provision, with, as the United States remarks, "far-reaching implications for U.S. export trade." U.S. Br. 19–20.

Further, the Federal Circuit's interpretation is also contrary to Congress's long-standing concern that patent law should not be used to restrict the free flow of staple articles of commerce. As this Court has recognized, infringement liability based on the supply of staple articles of commerce "necessarily" implicates "the public interest in access to that article of commerce," as well as "the rights of others freely to engage in substantially unrelated areas of commerce." *Sony Corp. of Am.* v. *Universal City Studios, Inc.*, 464 U.S. 417, 440–42 (1984); see *Henry* v. *A.B. Dick Co.*, 224 U.S. 1, 48 (1912) (patent infringement liability based on the supply of staple articles "would block the wheels of commerce"), *overruled on other grounds by Motion Picture Patents Co.* v. *Universal Film Mfg. Co.*, 243 U.S. 502, 517 (1917). For these reasons, Congress specifically eliminated contributory in-

fringement liability for the supply of components that are "a staple article or commodity of commerce suitable for substantial noninfringing use" in 35 U.S.C. § 271(c). See *Dawson Chem. Co.* v. *Rohm & Haas Co.*, 448 U.S. 176 (1980). And Congress built the same protection into § 271(f): section (f)(2) makes liability possible based on the supply of a single "component of a patented invention," but not if that component is "a staple article or commodity of commerce suitable for substantial noninfringing use." Section (f)(1) does not expressly exclude staple articles like (f)(2), but still protects the free flow of commerce by limiting liability to the supply of "all or a substantial portion of the components." 35 U.S.C. § 271(f); see also S. Hrg. 98-1008, at 26 (Statement of Gerald J. Mossinghoff, Asst. Secretary and Commissioner of Patents and Trademarks) (discussing the need to ensure that § 271(f) will not "deter the sale of components which are staple articles suitable for substantial noninfringing use"). The Federal Circuit's interpretation entirely erases this protection, allowing liability for the supply of a *single staple article of commerce*, such as the *Taq* polymerase at issue here. This interpretation is contrary to the Congressional intent reflected both in § 271(f) itself, and in over a hundred years of patent law. It should be rejected.

Finally, as discussed above, there is no indication—much less an "affirmative intention of the Congress clearly expressed," *Morrison*, 561 U.S. at 255—that Congress intended § 271(f)(1) to expand the extraterritorial application of patent law to anything more than the narrow set of circumstances where a U.S. manufacturer has attempted to evade a patent by supplying all or nearly all of the components of a patented invention for assembly abroad. If U.S. patent law is going to be used to restrict the flow of commod-

ity components, distort the incentives for companies to source components from the U.S., and create friction with foreign trading partners and conflicts with foreign laws, any such "alteration should be made after focused legislative consideration, and not by the Judiciary forecasting Congress' likely disposition." *Microsoft*, 550 U.S. at 459. As this Court has explained, if there is a "loophole" in the extraterritorial reach of the patent law (and there is no reason to believe there is), then it is "properly left for Congress to consider, and to close if it finds such action warranted." *Id.* at 457.

CONCLUSION

For the foregoing reasons, this Court should reverse the decision of the Federal Circuit.

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Court of the United States

LIFE TECHNOLOGIES CORPORATION; INVITROGEN IP HOLDINGS, INC.; APPLIED BIOSYSTEMS, LLC,

Petitioners,

v.

PROMEGA CORPORATION,

Respondent.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF FOR RESPONDENT

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QUESTION PRESENTED

Whether the Federal Circuit correctly rejected petitioners' desired per se rule that one component can never constitute "a substantial portion of the components of a patented invention" under 35 U.S.C. § 271(f)(1).

CORPORATE DISCLOSURE STATEMENT

Respondent Promega Corporation has no parent corporation and no publicly held company owns 10% or more of its stock.

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Respondent.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF FOR RESPONDENT

INTRODUCTION

There is no dispute that Promega's patent is valid, that Life Technologies was aware of the patent, and that Life Technologies knew each of its DNA test kits practiced the patent. The only remaining issue is whether Life Technologies can avoid liability for active inducement under 35 U.S.C. § 271(f)(1) by engrafting a rigid, purely numerical requirement onto the statute that is contrary to its text, history, and purpose. This Court should reject that attempt.

Section 271(f)(1) establishes liability for those who "suppl[y] ... from the United States all or a substantial

portion of the components of a patented invention" in a manner that "actively induce[s]" their combination into the patented invention abroad. The court of appeals correctly recognized that whether a defendant has supplied "a substantial portion of the components of a patented invention" from the United States is a factual question for the jury that takes into account both quantity and relative importance. Over the course of an eight-day trial, witnesses for both parties testified that Life Technologies supplied from the United States a "main," "major," and "critical" component of the five-component test kits, and the jury heard considerable testimony about how the test kits operated and the key component's role. The jury found Life Technologies liable for infringement, and the court of appeals correctly held that the jury's verdict was supported by substantial evidence, rejecting Life Technologies' request to impose a per se bar against a single important or central component amounting to a "substantial portion" of a patented invention's components.

This Court should likewise decline Life Technologies' invitation (at 4) to redefine "substantial portion" in purely quantitative terms as "a large percentage closely approximating all." Congress did not require the supply of "a large percentage," "nearly all," or even "many" components in § 271(f)(1). Instead, Congress required the supply of "a substantial portion," where "portion" simply identifies "a part of a whole" and "substantial" has the well-recognized meaning of "considerable in importance [or] value." In other words, Congress avoided exclusively quantitative terms, opting for a term that can have a qualitative as well as a quantitative meaning.

Nor does the legislative history support Life Technologies' position. Rather, it demonstrates that Con-

gress modeled § 271(f)(1) on the inducement rule of § 271(b) to prevent domestic manufacturers from weakening U.S. patents through cross-border machinations seeking to profit from the foreign shipment of important components. Life Technologies' proposed rule would contravene Congress's purpose by allowing domestic manufacturers with knowledge of a patent and intended infringement to supply the most valuable components of an invention to foreign customers with impunity.

Life Technologies and the government claim to find support for their strictly numerical rule in the presumption against extraterritoriality. But that canon of interpretation has no purchase here. Life Technologies' liability under § 271(f)(1) depends solely on its domestic conduct and its specific intent; the decision below did not impose any liability based on foreign conduct. Life Technologies and the government further suggest that the presumption applies because § 271(f)(1) may affect global commerce. Even if the presumption against extraterritoriality were transformed into such a broad policy statement, it would not support the adoption of a strictly quantitative rule here. By ignoring the relative importance of various components, a rigid quantitative construction would favor domestic suppliers of a single critical component over those who supply multiple, unimportant components. Under such a rule, liability would turn on contingencies of assembly—such as whether a device requires more than one of the same component—rather than the component's function relative to the patent owner's invention.

Life Technologies' policy arguments also suffer from a notable flaw: They ignore the fact that no liability for active inducement under § 271(f)(1) can be imposed without specific intent—a requirement that pro-

tects innocent manufacturers who are unaware of a patent or their customers' intended manufacture of the patented invention. Tellingly, neither Life Technologies nor the government cites any examples of the expansive liability they hypothesize.

Instead, the facts of this case exemplify the intended scope of the statute. Life Technologies was indisputably aware of Promega's patent. It supplied from the United States an important component of the patented invention (and, for several of the kits, multiple components). It induced assembly of the kits at its facility abroad, knowing that the kits practiced every element of the patent claim. And it profited significantly from its infringement. That is precisely the type of conduct Congress determined should be regulated by U.S. patent law.

The Federal Circuit's judgment should be affirmed.

STATEMENT

A. The Technology And Parties

DNA is a molecule made up of two strands of nucleotides. Within DNA, particular nucleotide sequences—called short tandem repeats ("STRs")—are repeated at specific regions called "loci." Pet. App. 2a-3a. The number of repeated sequences at any given STR locus varies within the human population. *Id.* 3a. While no single locus contains enough variation within the population to reliably identify an individual, matching multiple STR loci can result in reliable and statistically significant identification. *Id.* STR profiling can be used, among other things, to identify kinship. JA122-123. This case involves the foundational patent covering kits used for STR profiling.

Promega and Life Technologies are direct competitors in a two-supplier market for DNA test kits that enable STR profiling. Dist. Ct. Dkt. 530, at 14. Such kits have a wide variety of applications, including forensic identification, paternity testing, medical treatment, and research. A6121.[1] The kits allow users to make "copies of the [STR] loci of interest in order to obtain a detectable amount of DNA for analysis"—a process known as "'amplification.'" Pet. App. 3a. The amplification process is done using polymerase chain reaction (PCR), in which "a pair of 'primers' ... marks the start and finish" of the STR locus to be copied, and an enzyme, such as *Taq* polymerase, then replicates the strand of nucleotides between the primers. *Id.*

The development of easy-to-use PCR technology transformed medicine, forensics, and the study of biology.[2] In particular, the identification of *Taq* polymerase for use in PCR was essential to widespread adoption of the technology. In 1989, *Science* named *Taq* polymerase the first "Molecule of the Year" in the journal's 109-year history, explaining that "'Taq polymerase' ... continues working almost indefinitely despite the heating steps" of the PCR process, which "improved the yield, generated more specific and longer products, and facilitated automation." Guyer & Koshland, Jr., *The Mole-*

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[1] "A" refers to the Court of Appeals Joint Appendix.

[2] Kary B. Mullis, the author of an article cited by Life Technologies (at 8), received the 1993 Nobel Prize in Chemistry "'for his invention of the polymerase chain reaction method.'" *Nobel Prize in Chemistry 1993*, *available at* http://www.nobelprize.org/nobel_prizes/chemistry/laureates/1993 (last visited Oct. 24, 2016); *see also Board of Trs. of Leland Stanford Jr. Univ.* v. *Roche Molecular Sys., Inc.*, 563 U.S. 776, 780 (2011) (describing PCR as "[a] Nobel Prize winning technique").

cule of the Year, 246 Science 1543, 1543 (1989); *see also Edmonds Inst.* v. *Babbitt*, 42 F. Supp. 2d 1, 6 (D.D.C. 1999) ("Taq polymerase ... [is] ideally suited to the chemical processes used by scientists to copy DNA material").

Promega, a privately held biotechnology company based in Madison, Wisconsin, is the exclusive licensee of U.S. Reissue Patent No. RE37,984, known as the "Tautz patent." Tautz is considered a foundational patent in STR technology because the 1988 application on which it is based was the first to describe STR loci. JA112-127; A1928-1929, 2004.

Claim 42 of the Tautz patent covers "a kit for testing at least one STR locus that contains (1) a mixture of primers; (2) a polymerizing enzyme such as *Taq* polymerase; (3) nucleotides for forming replicated strands of DNA; (4) a buffer solution for the amplification; and (5) control DNA." Pet. App. 7a; *see also* JA127. Life Technologies has never challenged the Tautz patent's validity.[3]

B. Life Technologies' Infringement And District Court Proceedings

In 2006, Promega and defendant Applied Biosystems (now a wholly owned subsidiary of Life Technologies) entered into a cross-license agreement that allowed Life Technologies to sell kits practicing the Tautz patent for use in "Forensics and Human Identity Applications." Pet. App. 9a & n.3. The field-of-use terms in the license forbade Life Technologies from selling kits for clinical and research uses. *Id.* 37a;

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[3] The Tautz patent expired in 2015, so the issues in this case concern Life Technologies' liability for past acts of infringement.

A1868-1869; *see also* A815-816, 819, 905. At the time, Promega was told that Life Technologies' kits were all made in the United States. Dist. Ct. Dkt. 545, at 27.

In clear violation of the parties' cross-license agreement, Life Technologies engaged in a concerted campaign to sell its kits into unlicensed fields. Life Technologies helped educate customers about infringing uses for its kits and trained customers' employees on how to use its kits in unlicensed fields. A6591-6593, 6599-6600, 9158-9159. It knowingly sold to customers engaged in medical or research uses clearly outside the scope of the license. A6544-6545, 6616-6617, 6624, 9120. It even encouraged customers "to drop Promega and use [Life Technologies'] kits for" unlicensed purposes. A6594-6595. Indeed, an internal market assessment shared with Life Technologies' sales personnel identified one unlicensed field as offering "a 250 million dollar opportunity" for Life Technologies, concluding with the words "Happy selling." Dist. Ct. Dkt. 542, at 37, 38.

After raising the issue of unlicensed sales and receiving an unsatisfactory response, Promega sued Life Technologies for infringement of the Tautz patent and four other Promega patents.[4] The parties filed competing motions for summary judgment, and the district court concluded that Life Technologies' "sales of its STR kits for [unlicensed] uses ... directly infringed claim 42 of the Tautz patent." Pet. App. 9a; *see also* JA129-130. Life Technologies later agreed that the district court's ruling of infringement applied to a variety of additional STR kits. JA131-132. Life Technologies has never challenged the district court's finding that all

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[4] Life Technologies was found to infringe claims of the four Promega patents, but those patents were held invalid by the Federal Circuit. Pet. App. 2a, 9a-10a. They are not at issue here.

of its accused STR kits practiced claim 42 of the Tautz patent.

The district court then presided over a jury trial on willfulness and damages, in which Promega sought its lost profits due to Life Technologies' infringing sales. 35 U.S.C. § 284. Life Technologies conceded in its opening statement at trial that there "was technically an infringement" and that "[t]he law says [Promega is] entitled to be compensated for that infringement." A5127. Life Technologies also stipulated that its worldwide sales of accused STR kits totaled almost $708 million. JA166.

Promega presented evidence of Life Technologies' extensive infringing sales in the United States for unlicensed uses. *See* Promega C.A. Br. 14-18 (summarizing evidence). Promega also presented evidence of damages based on Life Technologies' supply of a "substantial portion" of the components of the patented invention in a manner that induced combination by workers at Life Technologies' facility in the United Kingdom of kits that would have infringed claim 42 of the Tautz patent if manufactured in this country. 35 U.S.C. § 271(f)(1).

It was undisputed that Life Technologies supplied the *Taq* polymerase for all of its STR kits from the United States. Pet. App. 34a & n.15; JA151-154. The record also contained evidence regarding the outsized importance of *Taq* polymerase. Life Technologies' own witness admitted that *Taq* polymerase is a "'main' and 'major'" component of its kits. Pet. App. 34a. Another witness described *Taq* polymerase as a "critical component ... used in the polymerase chain reaction to ... amplify" the original DNA sample. JA146. A third witness, in explaining the technology to the jury, testified that *Taq* polymerase "make[s] the new DNA" in the

amplification process, which is "a key step in the technology." JA137, 138.

Life Technologies' witness further admitted that it supplied from the United States not only the *Taq* polymerase, but also multiple primers for at least three of its accused STR kits—Identifiler, Identifiler Direct, and Identifiler Plus. JA149-151 (identifying 10 primers shipped from the United States); JA154-155, 162-163. Those three kits accounted for a significant amount of Life Technologies' sales. Promega C.A. Br. 53-54; A7180-7186, 7188-7192, 7196-7204, 9323-9324.[5]

The jury determined that all of Life Technologies' sales were attributable to infringing acts in the United States under § 271(a) or § 271(f) and that 10% of those sales were for unlicensed uses. JA165-167. On that basis, the jury concluded that Promega was entitled to $52 million in lost profits. JA167. The jury also found that Life Technologies' infringement was willful. *Id.*

Life Technologies sought judgment as a matter of law, contending, among other things, that Promega had "not [met] the burden of showing all or a substantial portion of the components" of Life Technologies' kits were supplied from the United States. A6505. Specifically, Life Technologies advocated for a bright-line rule that "at least two components must be supplied from the U.S." A2304. Consistent with this view, Life Technologies conceded that it could be held liable under

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[5] The district court erroneously stated that Promega "'did not attempt to quantify the sales of those accused products'" for which multiple components were shipped from the United States. Pet. Br. 11 n.2 (quoting Pet. App. 51a). Life Technologies tellingly does not defend that error, nor could it, because the record, as the citations in text show, contained extensive evidence quantifying sales of the three Identifiler kits.

§ 271(f)(1) for the three Identifiler kits for which Life Technologies supplied at least two components from the United States. A2303 ("two components of the claimed invention (primers and PCR enzyme) were supplied from the U.S." for the three Identifiler kits); A6505 ("for the Identifiler Kit ... there is evidence that could go to the jury"); *see also* Pet. App. 57a (assuming—"[b]ecause defendants do"—that "two components are a substantial portion").

The district court granted Life Technologies judgment as a matter of law. First, the court held that § 271(f)(1) "requires the involvement of another, unrelated party to 'actively induce the combination of components'" and that Promega had not established the existence of such a party. Pet. App. 23a, 59a-63a. Second, the district court ruled that Promega failed to prove Life Technologies had supplied a "'substantial portion of the components'" of the non-Identifiler kits because the statute required "at least two components to be supplied from the United States." *Id.* 23a, 54a-58a.

C. Appellate Proceedings

The Federal Circuit reversed the district court's grant of judgment as a matter of law and remanded for further proceedings. Pet. App. 37a-38a. The court held that Promega had proved and quantified infringing sales in the United States under § 271(a). *Id.* 35a. The court also held that "substantial evidence supports the jury's verdict that [Life Technologies] is liable for infringement under § 271(f)(1) for shipping the *Taq* polymerase component of its accused genetic testing kits to its United Kingdom facility." *Id.* 28a. The court explained that "there are circumstances in which a party may be liable under § 271(f)(1) for supplying or causing to be supplied a single component for combination out-

side the United States." *Id.* The court rejected the district court's holding—and Life Technologies' requested rule—that "a single component supplied from the United States, no matter how important or central to the invention, can never constitute 'a substantial portion of the components of a patented invention.'" *Id.* 34a. Instead, the court explained that "the ordinary meaning of 'substantial portion'" focuses on whether a component is "'important' or 'essential'" and does not "require[] a certain quantity." *Id.* 28a-29a.

Recognizing that the question of infringement under § 271(f)(1) is a question of fact for the jury, the court carefully reviewed the record before concluding that "substantial evidence ... support[s] the jury's conclusion that the *Taq* polymerase supplied by [Life Technologies] from the United States to its foreign facility is a 'substantial portion' of the components" of the patented invention. Pet. App. 33a. The court reiterated that *Taq* polymerase is one of the invention's five components, it was undisputedly supplied from the United States, and it is essential to the PCR reaction at the heart of the invention. *Id.* 33a-34a & n.15. The court also noted the case-specific admission by Life Technologies' witness that *Taq* polymerase is a "'main' and 'major' component[] of the accused kits." *Id.* 34a. Having concluded that the jury's verdict was supported by substantial evidence for all the accused kits, the court did not separately analyze the three Identifiler kits for which Life Technologies supplied multiple components from the United States.[6]

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[6] The Federal Circuit also held that "no third party is required" for infringement under § 271(f)(1). Pet. App. 24a. Chief Judge Prost dissented on that issue but did not address the question now before this Court. *Id.* 39a & n.1.

Life Technologies' petition for rehearing en banc was denied without dissent. Pet. App. 67a-68a. This Court granted certiorari on Life Technologies' second question presented, which challenges whether supply of a single component from the United States may ever lead to liability under § 271(f)(1). The Court denied Life Technologies' petition insofar as it challenged the Federal Circuit's holding that no third party was required for inducement liability under § 271(f)(1).

SUMMARY OF ARGUMENT

1. Section 271(f)(1)'s plain language calls for a fact-intensive, case-specific inquiry into whether what is supplied from the United States constitutes "a substantial portion of the components" of the patented invention. There is no reason to confine that inquiry to quantitative substantiality, while excluding considerations of qualitative substantiality. A "portion" is simply "a part of a whole," and, as the parties and the government agree, the term "substantial" can mean considerable in amount and/or importance. This focus on both the quantitative and qualitative significance of the matter supplied from the United States is supported not only by the text of § 271(f)(1), but also by judicial interpretations of similarly worded statutes.

A single component that is very important to the overall invention may therefore constitute a "substantial portion" of the invention's components under appropriate circumstances. As the Federal Circuit correctly held, the record in this case—indeed the testimony of Life Technologies' own witness—amply permitted the jury to find *Taq* polymerase sufficiently important to meet this standard.

To escape that reasonable finding, Life Technologies asks the Court to adopt a rigid, bright-line rule with no foundation in the statutory text: Section 271(f)(1) does not employ strictly quantitative language that would establish Life Technologies' desired rule, such as "a large percentage" or "a large number." And neither the term "all" nor the plural "components" elsewhere in § 271(f)(1) limits the plain meaning of "substantial portion" to quantity alone.

Life Technologies' multiple-component rule likewise finds no support in the legislative history. Although Congress was moved to act by this Court's decision in *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518 (1972), the law Congress enacted undisputedly reached beyond the facts of that case. In enacting § 271(f), Congress's paramount concern was to prevent U.S. manufacturers from evading the operation of U.S. patent law by exporting components abroad with the *intent* to induce the making of a patented invention. Nowhere did Congress suggest that its concern was limited to manufacturers who knowingly supplied *more than one* component abroad. And the legislative history refutes Life Technologies' argument that Congress intended § 271(f)(2) to be the sole provision governing the supply of a single component. Rather, Congress modeled § 271(f)(1) and (2) on existing provisions of the Patent Act that prohibit inducement and contributory infringement, respectively. 35 U.S.C. § 271(b), (c). Just as a single act can give rise to liability for both inducement and contributory infringement, the supply of a single component can give rise to liability under both § 271(f)(1) and (2) if the component is sufficiently important, is supplied in a manner that actively induces infringement abroad, *and* is "especially made or espe-

cially adapted" for use in the patented invention (and the defendant knows all this). *Id.* § 271(f)(2).

2. The Federal Circuit's interpretation reflects sound patent policy. Life Technologies claims that a strictly quantitative rule is necessary to avoid unduly expansive liability for innocent U.S. suppliers of commodity components. That argument wholly ignores § 271(f)(1)'s principal safeguard against unpredictable liability: the specific intent required to establish active inducement. A defendant must both know of the patent and intend that the components it supplies will be combined in a way that practices the patent. This intent requirement protects innocent suppliers. Indeed, it has confined liability under § 271(f)(1) to the rare case in which a defendant like Life Technologies deliberately and knowingly seeks to get away with infringement.

Life Technologies' proposed rule would lead to absurd and arbitrary results Congress could not have intended. For example, a rule requiring the supply of more than one component could allow the supplier of an invention's single most important component to evade liability entirely—even where that invention has few components and the supplier acted with the requisite intent—if the component supplied is not unique to the invention. Even worse, a rule requiring the defendant to supply nearly all the invention's components would allow multiple suppliers to collude to supply all of the components of a patented invention for assembly abroad, fully intending the resulting product to infringe; as long as each supplier exported only one or two components, the group could engage in this intentional conduct without fear of liability. Moreover, the government concedes (at 26) that determining whether a specific number of domestically supplied components amounts to a sufficiently large percentage under a

"nearly all" standard would create "line-drawing problems" for which the government has no solution.

3. Contrary to Life Technologies' argument, the question presented here does not implicate the presumption against extraterritoriality. As this Court has explained, there is no extraterritoriality concern "[i]f the conduct relevant to the statute's focus occur[s] in the United States, ... even if other conduct occur[s] abroad." *RJR Nabisco, Inc.* v. *European Cmty.*, 136 S. Ct. 2090, 2101 (2016). Here, Life Technologies' liability under § 271(f)(1) depends solely on its domestic conduct—its intentional supply *from the United States* of an important, physical component of the patented invention. This situation is easily distinguishable from *Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437 (2007), which held that § 271(f) did not apply to *foreign-made* copies of a master version of software that had originated in the United States. In *Microsoft*, the U.S.-made master was never actually used in an infringing device. By contrast, every unit of *Taq* polymerase that Life Technologies shipped from the United States powered a kit that practiced the Tautz patent.

Even assuming the statute must be read to "minimize[] its impact on foreign conduct" (U.S. Br. 11), there is no evidence that a rigid, quantitative rule accomplishes that goal. Neither Life Technologies nor the government explains why "foreign conduct" will be affected more by prohibiting deliberately infringing shipments from the United States of a single component of central importance than by prohibiting shipment of multiple minor components. Accordingly, they offer no reason based on respect for foreign sovereigns to prefer a construction that depends solely on quantity over a construction that also factors in a given component's importance to the invention as a whole.

4. Finally, even if the Court adopts a strictly quantitative interpretation of § 271(f)(1), Life Technologies would not be entitled to judgment as a matter of law. Life Technologies admitted at trial that three of its best-selling Identifiler kits were made using *multiple* components supplied from the United States. And it expressly conceded on that basis that whether it supplied a "substantial portion" of the components of *those* kits from the United States was a question for the jury. Thus, even if the Court accepts Life Technologies' interpretation of the statute, the appropriate disposition would be to remand the case for further proceedings, not to enter judgment as a matter of law.

ARGUMENT

I. THE SUBSTANTIALITY INQUIRY UNDER § 271(f)(1) REQUIRES A CASE-SPECIFIC FACTUAL ANALYSIS, NOT A RIGID NUMERICAL THRESHOLD

Section 271(f)(1) prohibits a party from supplying "all or a substantial portion of the components of a patented invention" from the United States in a manner that actively induces their combination into the patented invention abroad. After weighing all the evidence presented over eight days of trial, the jury in this case determined that this standard was met. That case-specific factual finding has ample support in the record and is entitled to deference on appeal.

Life Technologies can overturn the jury's verdict *only* by manufacturing a rule focused exclusively on the number of components supplied from the United States. In the proceedings below, Life Technologies contended that a single component—no matter how important—can never be a "substantial portion" of an invention's components, and that a defendant must supply "at least two components" from the United States

to be liable under § 271(f)(1). A2303; Pet. App. 51a. Before this Court, Life Technologies urges a much more restrictive interpretation that directly conflicts with its prior concession that it could be liable for supplying two components of its Identifiler kits. *Supra* p. 9. Under its new interpretation—which was never argued to the district court or the court of appeals—Life Technologies could only be found liable if it supplied from the United States "a large percentage closely approximating all" of the components. Pet. Br. 4.

Neither formulation of Life Technologies' proposed rule can be reconciled with the text, history, or purpose of the statute. Section 271(f)(1) does not require a party to supply "multiple components" from the United States. Nor does it require the supply of "a large number," "a high percentage," or even "most" of the components of a patented invention—language that would plainly require a strictly numerical approach. The statute instead extends liability to any party that supplies "all *or a substantial portion*" of the invention's components. The statute's text and legislative history confirm that whether a given portion of components is "substantial" depends not only on the number of components involved, but also on their qualitative importance or value to the invention as a whole. As the Federal Circuit held, a single component, if sufficiently "'important' or 'essential'" to the invention, can amount to a "'substantial portion'" under the statute as properly construed. Pet. App. 28a-29a.

A. The Text Of Section 271(f) Supports A Case-Specific Factual Analysis Of Whether A Component Is A "Substantial Portion" Of The Invention's Components

Life Technologies' proposal ignores the commonly accepted definitions of the words "substantial" and "portion." A "portion" is simply "a part of any whole." *Random House College Dictionary* 1034 (1982); *see also American Heritage Dictionary of the English Language* 1022 (1978). A portion of a set of components could be one component or multiple components; the use of the term "portion" does not, standing alone, require a particular quantity.

By the plain text of the statute, supplying a "portion" of an invention's components—whether one component or many—is sufficient to give rise to liability if the portion is "substantial." As all recognize (Pet. Br. 16; U.S. Br. 12), the term "substantial" can have both a qualitative and quantitative meaning: It means "[c]onsiderable in importance, value, degree, amount, or extent." *American Heritage Dictionary* 1284; *see also Random House College Dictionary* 1310 ("of ample or considerable amount, quantity, size, etc." or "of real worth, value, or effect"); *Webster's Third New International Dictionary of the English Language Unabridged* 1817 (1981) ("of considerable worth or value; vital; important" or "of considerable size or amount; large"); Malaguti, *Substantial Confusion: The Use and Misuse of the Word "Substantial" in the Legal Profession*, 52 N.H. Bar J. 6, 8 (Autumn 2011) (describing the modern and most prevalent definition of "substantial" as "'of considerable importance, size, or worth'"). Consistent with that broad definition, determining whether matter supplied from the United States is a "substantial portion" of the invention's components turns on

both the number of components supplied *and* their qualitative importance and value relative to the invention as a whole.

This approach is consistent with judicial interpretations of similar language in many other statutes. When interpreting such language, courts have engaged in fact-intensive, case-by-case analyses of both quantitative and qualitative substantiality. No court has held that to be "substantial," a "portion" must consist of more than one item, or that it must amount to a "quantitatively large percentage" (Pet. Br. 18) or "something close to all" (U.S. Br. 26) of the whole.

The Internal Revenue Code, for example, defines a "tax return preparer" as a person who prepares all or "a substantial portion of a return or claim for refund." 26 U.S.C. § 7701(a)(36)(A). It is well-accepted that a single entry may constitute a "substantial portion" of the return—and to determine whether any given entry meets this test, the court engages in a case-specific assessment of the entry's length and complexity relative to the document as a whole. *See Goulding* v. *United States*, 957 F.2d 1420, 1425-1426 (7th Cir. 1992). Similarly, under the Endangered Species Act, an endangered species is one that faces a threat of extinction in "all or a significant portion of its range." 16 U.S.C. § 1539(b)(2)(B). Here, too, whether a given percentage of a species' habitat is a "significant portion of its range" is determined "case by case." *Defenders of Wildlife* v. *Norton*, 258 F.3d 1136, 1143 (9th Cir. 2001). There is no bright-line percentage required; the inquiry is instead whether there are "major" geographic areas in which the species now faces a threat of extinction. *Id.* at 1145. Finally, in determining whether use of a copyrighted work amounts to "fair use," the Copyright Act requires courts to consider "the amount and sub-

stantiality of the portion used." 17 U.S.C. § 107(3). Determining whether a portion is substantial requires a "qualitative [e]valu[ation] of the copied material." *Harper & Row Publishers, Inc.* v. *Nation Enters.*, 471 U.S. 539, 564-566 (1985).

Even in statutes employing the phrase "substantially all"—which is much closer to Life Technologies' preferred rule—"substantial" is understood to encompass both quantitative and qualitative aspects. For example, under Delaware law, whether the sale of a corporation's assets amounts to a sale of "all or substantially all" of the assets turns "'not [on] the size of a sale alone, but also [on] its qualitative effect upon the corporation.'" *Thorpe* v. *CERBCO, Inc.*, 676 A.2d 436, 444 (Del. 1996). Similarly, under New York law, a single property can amount to "all or substantially all" of a nonprofit's assets if the property is its "largest, most significant, and single most valuable possession." *Rose Ocko Found., Inc.* v. *Lebovits*, 686 N.Y.S.2d 861, 864 (App. Div. 1999).

The statutes cited by Life Technologies are not to the contrary. Pet. Br. 18 (citing 42 U.S.C. § 1962d-14a(g)(1); 37 U.S.C. § 419; 26 U.S.C. § 4252). To be sure, all of the statutes contemplate some amount or quantity—an amount of hydroelectric power, a number of hours, and a number of people, respectively. But the statutes on their face say nothing about the question presented in this case, which is how to determine whether a given amount or quantity qualifies as "substantial." Life Technologies has not pointed to, and Promega has not found, any judicial decision weighing in on this question with respect to any of these statutes. Even if Life Technologies were correct that the statutes are best interpreted to require the portion to be a quantitatively large percentage of the whole, the fun-

damental differences among the statutes weaken any analogy to § 271(f)(1). Specifically, the statutes on which Life Technologies relies all involve homogeneous units that do not vary in qualitative importance: watts of hydroelectric power, hours in a day, and people living in a specific area. The same is not true of the components of a patented invention, which can differ considerably in their significance.

The text of § 271(f)(1) is thus consistent with a case-specific analysis of both the number of components supplied and their importance to the patented invention. As the Federal Circuit properly held, in the right circumstances, a single component can be a "substantial portion" of the invention's components if it is sufficiently important to the overall invention. Pet. App. 28a-29a. The determination whether that is the case is fact intensive and within the province of the jury.

The government's principal argument (at 14-15) consists of a series of examples purporting to show that it would be "strange" in some contexts to refer to a single item as a "substantial portion" of a larger set. For example, the government contends (*id.*) that it would be "odd" to refer to a single car part as a "'substantial portion of the parts of a car,'" to a single act as a "'substantial portion of the acts of the show,'" or to a single entry on a tax return as a "'substantial portion of the entries.'" All of those examples miss the mark. A car has tens of thousands of parts, so the likelihood that a single part is sufficiently important to be a "substantial portion" is small. A play may have only four acts, but the acts are likely to be relatively equal in length and importance. And a single entry on a tax return—when sufficiently important—may well be considered a "substantial portion of the entries" on the return. Congress recognized in enacting the definition of a "tax return

preparer" that entries on a tax return can vary significantly in "'length and complexity.'" *Goulding*, 957 F.2d at 1426 (quoting H.R. Rep. No. 94-658, at 275 (1976)). The government itself has squarely rejected the view that a single entry can never constitute a "substantial portion" of a tax return, *id.*, decrying "the fallacy of such a construction." U.S. Br. 36, *Goulding*, No. 90-1788 (7th Cir. Nov. 6, 1990). As the government argued in *Goulding*, "[s]uch a limited construction of the term 'substantial portion' would be entirely mechanical" and would artificially ignore the importance of certain entries: "Obviously, a $200,000 deduction is not to be dismissed as *de minim*[*i*]*s* simply because it constitutes a single entry." *Id.* 36, 38; *see also id.* 38 (arguing that a "wooden concept of what is 'substantial' would make an unwarranted inroad on the proper scope of the [statute]").

Similarly, a single component might amount to a "substantial portion" of an invention's components where (1) the invention has only a handful of parts and (2) the parts are of varying degrees of importance to the invention as a whole. More analogous examples make clear that it will often be appropriate to refer to a single item as a substantial portion of the broader set. If a person holds five assets, one of which singlehandedly accounts for 65% of his net worth, that asset would appropriately be described as a "substantial portion of the assets in his portfolio." Similarly, if a guacamole recipe calls for three ingredients—an avocado, lime juice, and salt—the avocado would naturally be considered "a substantial portion of the ingredients of the recipe." Finally, and perhaps most relevant here, a common over-the-counter pain medication may consist of six ingredients total—one critical ingredient (acetaminophen) and five inactive ingredients that are, by

definition, not important to the therapeutic value of the drug. 21 C.F.R. § 210.3(b)(7)-(8).[7] It is neither "strange" nor "odd" (U.S. Br. 15) to conclude under these circumstances that acetaminophen constitutes a "substantial portion of the ingredients of the drug."

Life Technologies (at 18) and the government (at 15) contend that Congress's use of the word "all" in § 271(f)(1) suggests that the term "substantial portion" is best read to mean "nearly all" of the components. But the use of the disjunctive "or" presumptively signals Congress's intent to give the two statutory terms—"all" and "substantial portion"—"their separate, normal meanings." *Garcia* v. *United States*, 469 U.S. 70, 73 (1984). The normal meaning of "substantial portion" is by no means synonymous with "nearly all." On the contrary, the Federal Trade Commission previously determined that only two of twenty components of a toy toolkit amounted to a "substantial portion" of the toy's components. *Impropriety of Description "Made in U.S.A." for Kit with Substantial Amount of Foreign Components*, 31 Fed. Reg. 5125 (Mar. 30, 1966).

Moreover, the *noscitur a sociis* canon does not narrow the meaning of a statutory term unless the statute provides "strong[] contextual cues" that Congress intended that result. *Ali* v. *Federal Bureau of Prisons*, 552 U.S. 214, 221 (2008); *see id.* at 226 (distinguishing a prior case that narrowed the statutory phrase "'any election'" because it was "closely surrounded by six specific references to gubernatorial elections"); *see also*

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[7] *See* Johnson & Johnson Consumer Inc., *Regular Strength TYLENOL®*, *available at* https://www.tylenol.com/products/tylenol-regular-strength-tablets#ingredients (last visited Oct. 24, 2016).

Graham County Soil & Water Conservation Dist. v. *United States*, 559 U.S. 280, 288 (2010) ("'[t]hat a word may be known by the company it keeps is ... not an invariable rule, for the word may have a character of its own not to be submerged by its association'").

The statute here provides no cues demanding that "substantial portion" be understood as similar in meaning to "all." Courts interpreting similarly worded statutes have given the term "substantial portion" its ordinary meaning, without concluding that the term must mean something close to "all." *E.g.*, *Defenders of Wildlife*, 258 F.3d at 1143-1144. Nor does "all" impart a strictly numerical cast to the entire provision, as Life Technologies argues. The use of "all" is fully consistent with the Federal Circuit's interpretation of the statute because the supply of "all ... the components" necessarily encompasses the supply of all the *important* ones as well.

Life Technologies' final textual argument—based on the use of the plural "components" throughout § 271(f)(1)—is likewise misplaced. Read in full, § 271(f)(1) imposes liability on a defendant who supplies "all or a substantial portion of *the components of a patented invention*, where *such components* are uncombined in whole or in part, in such manner as to actively induce the combination of *such components* outside of the United States in a manner that would infringe if such combination occurred within the United States." As the Federal Circuit rightly recognized, the subsequent references to "such components" plainly refer back to "the components of a patented invention," which means all of the invention's components. A word modified by the demonstrative adjective "'such'" generally refers back to "the last antecedent, unless the sense of the passage requires a different construction."

Sims Lessee v. *Irvine*, 3 U.S. (3 Dall.) 425, 444 n.* (1799). Here, the last antecedent is the phrase "the components of a patented invention," and the statutory context does not require a different result. Indeed, this reading is confirmed by the fact that a "combination of *such components*" would "infringe [the patent] if such combination occurred within the United States"; this can only refer to all of the components of the patented invention—not merely what was supplied from the United States—because a "combination of such components" can only "infringe" a patent if *all* the components are present.

The language "where *such components* are uncombined in whole or in part" in § 271(f)(1) likewise refers to all the components of a patented invention, rather than the subset of components supplied from the United States. The statute thus requires that, at the time a defendant supplies matter from the United States, either *all* the components of a patented invention remain uncombined ("in whole") or some of those components remain uncombined ("in part"). Reading "such components" to refer exclusively to what is supplied from the United States could permit a defendant to avoid liability under § 271(f)(1) merely by combining the U.S.-supplied components together into a single component before shipping it abroad for further assembly, because the components in that instance would not be "uncombined." Congress cannot have intended that result.[8]

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[8] The government argues (at 20 n.6) that liability could not be avoided by combining U.S.-supplied components before shipment because they would remain "uncombined" with the other components of the patented invention. But the government is merely reading words into the statute to compensate for the problems caused by deviating from the last antecedent rule. The complexity of such an interpretation is a powerful reason to reject it.

To be sure, Life Technologies correctly observes (at 20) that § 271(f)(2) uses the term "such component" to refer to the matter supplied from the United States. But that follows directly from the grammatical structure of § 271(f)(2), which differs from that of § 271(f)(1). Section 271(f)(2) prohibits the supply of "*any component* of a patented invention ... where *such component* is uncombined in whole or in part." Because the only possible antecedent is the phrase "any component of a patented invention," the phrase "such component" must refer to the component supplied from the United States. Consistent with that difference, § 271(f)(1) recognizes that "the combination of *such components*" (*i.e.*, all components of the invention) will "infringe the patent," while § 271(f)(2) contemplates that "*such component*" (*i.e.*, the component supplied from the United States) must "be combined" with other components in order to infringe.

Even if Life Technologies were correct that the subsequent references to "components" in § 271(f)(1) referred to the matter supplied from the United States, the use of the plural would not be dispositive. The Dictionary Act sensibly provides that the use of a plural noun generally encompasses the singular. 1 U.S.C. § 1. In this case, Congress used the plural "components" throughout the remainder of § 271(f)(1) for a clear reason: to account for the possibility of a defendant supplying "all" of the components from the United States. It almost certainly would have done so even if the statute simply prohibited the supply of "one or more of the components of a patented invention." The only alternative drafting option would require Congress to use *both* the singular and the plural—*i.e.*, to specify "where *such component is or such components are* uncombined in whole or in part." But that sort of rigid and cumber-

some drafting is exactly the problem the Dictionary Act is meant to avert. *Northern Ill. Serv. Co.* v. *Perez*, 820 F.3d 868, 870 (7th Cir. 2016) (Easterbrook, J.) ("Statutes and regulations are long enough as they are without forcing drafters to include both the singular and the plural every time."); *cf. Ali*, 552 U.S. at 221 ("We have no reason to demand that Congress write less economically and more repetitiously."). The use of the plural noun "components" in § 271(f) therefore does not require Life Technologies' rigid, multiple-component rule and does not preclude a finding of liability based on the supply of a single important or essential component.

B. The History And Purpose Of Section 271(f) Support A Case-Specific Factual Analysis

All agree (Pet. Br. 5; U.S. Br. 22-23) that Congress enacted § 271(f) to "close a loophole" identified by this Court in *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518 (1972). 130 Cong. Rec. H10,522, H10,525 (Oct. 1, 1984). But Congress's response went beyond solely addressing the specific facts of *Deepsouth*. Rather, § 271(f) was intended to prevent defendants from deliberately circumventing U.S. patent law by shipping major components of patented inventions from the United States for assembly and use abroad.

In *Deepsouth*, the defendant manufactured the parts of a patented shrimp deveining machine in the United States, but did not assemble the parts into an infringing machine. Instead, the defendant packaged the unassembled parts into boxes and exported them to customers abroad. *Deepsouth*, 406 U.S. at 524 & n.6. The defendant candidly acknowledged that its conduct was intended to evade the limitations of U.S. patent law. *Id.* at 523 n.5. This Court held that the defendant

could not be found liable for patent infringement because the plaintiff's combination patent protected only "the operable assembly of the whole and not the manufacture of its parts." *Id.* at 528.

Deepsouth thus revealed a gap in U.S. patent protection: A defendant was free to export unassembled components of a patented invention, *intending* that those components be assembled into an infringing product abroad. The *Deepsouth* dissent recognized that the majority's decision rewarded "the very iniquitous and evasive nature of Deepsouth's operations." 406 U.S. at 533 (Blackmun, J., dissenting). Heeding this Court's signal that a "clear congressional indication" would be necessary in order to prohibit this type of conduct, *id.* at 532, Congress enacted § 271(f), 130 Cong. Rec. at H10,525; *see also* S. Rep. No. 98-663, at 2-3 (1984).

As originally proposed, § 271(f) would have prohibited a party from supplying "the *material components* of a patented invention" from the United States if the party "intend[ed] that such components will be combined outside of the United States." *Patent Law Improvements Act: Hearing on S. 1535 and S. 1841 Before the S. Subcomm. on Patents, Copyrights and Trademarks of the S. Comm. on the Judiciary*, 98th Cong. 2-3 (1984) ("*1984 Hr'g*") (emphasis added); *see also* 129 Cong. Rec. S9005 (June 23, 1983) ("[T]he bill also contains a provision to assure that a product patent cannot be circumvented by manufacturing the material components of the product within the United States, then assembling them and selling the finished product abroad."). From the beginning, then, Congress's attention was on the *importance*—not the number—of the components supplied from the United States.

At a Senate hearing, the Assistant Secretary and Commissioner of Patents and Trademarks, Gerald J. Mossinghoff, presented the United States' position on the bill. At first, Commissioner Mossinghoff suggested that the supply of components from the United States should only give rise to infringement liability if the components were "made especially for use in the infringement of a patent" and *not* staple articles of commerce. *1984 Hr'g* 22. The bill's sponsor, Senator Mathias, pressed him, asking whether a defendant should be able to send staple articles of commerce abroad with specific instructions explaining how to assemble them into an infringing product. *Id.* Commissioner Mossinghoff agreed that situation would be "a closer call" and proposed that Congress address the two scenarios separately, incorporating two existing principles of patent law—contributory infringement and active inducement—from § 271(c) and (b), respectively. *Id.* 22-23. On the one hand, a defendant could be liable for supplying a component especially adapted for use in the invention because exporting such a component is, in effect, a type of contributory infringement. *Id.* On the other hand, even a defendant "selling a staple article in commerce" could be liable as an infringer if it "actively induce[d] infringement abroad." *Id.*; *see also id.* 23 ("Perhaps you could take the wording of both 271(b) and 271(c) in the new section.").

Congress did exactly that. Senator Mathias introduced an amendment that revised the bill to incorporate the principles codified in § 271(b) and (c). 130 Cong. Rec. S14,446 (Oct. 11, 1984). Section 271(f)(1) drew upon the concept of "active inducement" from § 271(b). 130 Cong. Rec. at H10,525-10,526 ("The term 'actively induce' is drawn from existing subsection 271(b) of the patent law[.]"). Meanwhile, § 271(f)(2)

drew upon principles of contributory infringement from § 271(c) by prohibiting the supply of any component of a patented invention that is "'especially made or especially adapted for use [in the invention] and not a staple article or commodity of commerce.'" *Id.* (explaining that § 271(b) and (c) served as the models for § 271(f)(1) and (2)).

As this history makes apparent, Congress nowhere suggested that liability under § 271(f)(1) depended on counting the number of components shipped abroad. Rather, Congress intended to prohibit the supply of even a single important component with non-infringing uses where the defendant supplied the component with the specific intent required for active inducement. *See infra* pp. 34-35. Life Technologies and the government err in suggesting that Congress was only concerned about domestic producers shipping entire unassembled products (*i.e.*, all or most of the components) abroad. In fact, Congress wanted to foreclose obvious, intentional efforts by competitors to evade U.S. patent protection, recognizing that the "subterfuge ... allowed under the *Deepsouth* interpretation of the patent law weakens confidence in patents among businesses and investors." S. Rep. No. 98-663, at 3; *see also* 130 Cong. Rec. H12,231 (Oct. 11, 1984) (under the bill, "a product's patent *cannot be avoided* through the manufacture of component parts within the United States for assembly outside the United States" (emphasis added)); 130 Cong. Rec. at H10,529; 129 Cong. Rec. E5777, E5778 (Nov. 18, 1983).

To address this concern, Congress deliberately enacted a law that was broader in scope than necessary to close the *Deepsouth* loophole: *Deepsouth* involved the supply of *all* constituent parts from the United States, yet § 271(f) indisputably covers situations where something less than all is supplied. *Microsoft Corp.* v. *AT&T*

Corp., 550 U.S. 437, 457-458 & n.18 (2007). Life Technologies and the government acknowledge that § 271(f) is not confined to *Deepsouth*'s facts, but their only response is that a statute prohibiting the supply of "all" components would have allowed a supplier to "avoid[] liability by supplying all but one of the components to the foreign assembler." U.S. Br. 23; *see also* Pet. Br. 35. But neither Life Technologies nor the government cites any authority for the argument that the "substantial portion" language was intended solely to prevent that situation. Had that been Congress's exclusive concern, the natural ways to address it would have been to prohibit the supply of "all or most of the components," "all or a large number of the components," "all or nearly all of the components," or "all or a large percentage of the components." Congress chose none of those.

The legislative history also negates the inferences Life Technologies and the government seek to draw by comparing § 271(f)(1) and (2). As that history demonstrates, there was a very simple reason why Congress used the singular "component" in § 271(f)(2) but not in § 271(f)(1): Section 271(c), which served as the model for § 271(f)(2), is also phrased in the singular.

The history likewise makes clear that § 271(f)(2) is not, as Life Technologies contends (at 19), the *exclusive* avenue for imposing liability based on the supply of a single component. There is considerable overlap between inducement and contributory infringement—the principles on which § 271(f)(1) and (2) were based. *See, e.g.*, *Metro-Goldwyn-Mayer Studios Inc.* v. *Grokster, Ltd.*, 545 U.S. 913, 942 (2005) (Ginsburg, J., concurring) (observing that the two categories of infringement "overlap," though "they capture different culpable behavior"). A domestic sale of a single, non-staple component may create liability both for inducement under

§ 271(b) and for contributory infringement under § 271(c). *See, e.g.*, *i4i Ltd. P'ship* v. *Microsoft Corp.*, 598 F.3d 831, 850-852 (Fed. Cir. 2010), *aff'd*, 564 U.S. 91 (2011); *Golden Blount, Inc.* v. *Robert H. Peterson Co.*, 438 F.3d 1354, 1360-1364 (Fed. Cir. 2006). It is thus unremarkable that supply of a single component could infringe under both provisions of § 271(f) if, in addition to being "especially made or especially adapted" for use in the patented invention, the component was sufficiently important to qualify as a "substantial portion" and was supplied in a manner that actively induced infringement. The disjunction Life Technologies and the government seek to create between § 271(f)(1) and (2) ignores the historical overlap of § 271(b) and (c).

Finally, Life Technologies (at 23) and the government (at 18) invoke two footnotes in this Court's *Microsoft* decision as support for their purely quantitative rule. Observing that § 271(f)(1) and (2) "differ, among other things, on the quantity of components that must be 'supplie[d] ... from the United States,'" the Court remarked that § 271(f)(2) "applies to the export of even a single component" under certain circumstances. *Microsoft*, 550 U.S. at 454 nn.16, 18. All agree (Pet. Br. 23; U.S. Br. 18) that these statements are dicta. The Court in *Microsoft*, as Life Technologies concedes (at 23-24), "did not consider the issue" of whether exporting a single important component could give rise to liability under § 271(f)(1). This Court has refused to rely upon "ambiguous comment[s] ... made without analysis in dicta" in its prior decisions. *Pacific Operators Offshore, LLP* v. *Valladolid*, 132 S. Ct. 680, 688 (2012). In any event, the Federal Circuit properly recognized that *Microsoft*, read in full, "tends to support the conclusion that § 271(f)(1) may apply when a single 'component' is involved," because this Court twice used the singular

"component" when referring to what must be supplied under *either* § 271(f)(1) or (2). Pet. App. 31a-32a; *see Microsoft*, 550 U.S. at 454 n.16 ("Paragraph (2), *like (1)*, covers only '*a component*' amenable to 'combination.'" (emphases added)); *id.* ("Paragraph (2), *like (1)*, encompasses only the 'suppl[y] ... from the United States' of 'such *[a] component*' as will itself 'be combined outside of the United States.'" (emphases added)).

For all these reasons, the Federal Circuit correctly rejected Life Technologies' request to hold, as a matter of law, that supplying a single component can *never* give rise to liability under § 271(f)(1). Of course, judgment as a matter of law may be appropriate if a particular component is unimportant to the patented invention and no reasonable jury could conclude it amounts to a "substantial portion" of the invention's components under § 271(f)(1). But that determination must be made case by case, after careful consideration of the record. Where, as here, there is sufficient evidence that a component is important enough to be a "substantial portion of the components" of the patented invention, the jury should be left to decide that issue.

In this case, the jury's decision was simple: Life Technologies' own witness conceded at trial that *Taq* polymerase was a "'main' and 'major' component[]" of the accused kits, and there was ample other evidence of substantiality. *Supra* pp. 8-9. Juries may in other cases consider a wide range of factors in determining whether a component is sufficiently important to be a "substantial portion": the component's function relative to the patented invention; the component's economic cost and value; its novelty within the industry; the extent to which the component is featured or discussed in materials promoting the invention; whether it is necessary for the invention to function; and any other

relevant evidence of its significance to the invention as a whole. Life Technologies' strictly numerical rule requires rejecting *any* consideration of importance whatsoever. This categorical rejection cannot be justified by the text, history, or purpose of § 271(f).

II. THE FEDERAL CIRCUIT'S CASE-SPECIFIC FACTUAL INQUIRY REFLECTS CONGRESSIONAL INTENT AND SOUND POLICY

A. The Specific Intent Required For Active Inducement Protects Innocent Suppliers By Ensuring That Section 271(f) Reaches Only Culpable Actors

Life Technologies repeatedly suggests that the Federal Circuit's decision exposes the manufacturer of "a single, commodity component" to "worldwide" liability. Pet. Br. i; *see id.* 13, 29, 35. But Life Technologies' formulation of the issue omits a crucial limitation on liability—the defendant's mental state. Life Technologies focuses on the required act (supply of "a substantial portion of the components"), but neglects the specific intent required for liability ("in such a manner as to *actively induce* the combination ... in a manner that would infringe"). 35 U.S.C. § 271(f)(1) (emphasis added). Section 271(f)(1)'s dual requirement—of both domestic supply of a substantial portion of the components and inducement with knowledge that the combination practices the patent—dispenses with Life Technologies' purported concern (at 5) that the supply of "common and useful" components may lead to "unpredictable" liability.

As explained above, when Congress enacted § 271(f)(1), it expressly drew the term "actively induce" from § 271(b). *Supra* p. 29. Accordingly, "actively induce" requires the same mental state in both provi-

sions—namely, "[w]hen a person *actively induces* another to take some action, the inducer obviously knows the action that he or she wishes to bring about." *Global-Tech Appliances, Inc.* v. *SEB S.A.*, 563 U.S. 754, 760 (2011) (emphasis added). "The inducement rule ... premises liability on purposeful, culpable expression and conduct[.]" *Grokster*, 545 U.S. at 937. Thus, liability for inducement under § 271(f)(1) requires knowledge of the patent and an intent that the domestically supplied components be combined into the patented invention. *See Global-Tech*, 563 U.S. at 765-766; *Commil USA, LLC* v. *Cisco Sys., Inc.*, 135 S. Ct. 1920, 1926-1928 (2015).

In the § 271(b) context, liability may be premised on a variety of acts that encourage infringement but do not involve tangible participation in the infringement beyond encouragement. For example, defendants may be liable for designing an infringing product, *Water Techs. Corp.* v. *Calco, Ltd.*, 850 F.2d 660, 668 (Fed. Cir. 1988); instructing a third party to build one, *Fuji Photo Film Co.* v. *Jazz Photo Corp.*, 394 F.3d 1368, 1378 (Fed. Cir. 2005); directing or instructing a third party to use a product in an infringing manner, *Insituform Techs., Inc.* v. *CAT Contracting, Inc.*, 385 F.3d 1360, 1377-1378 (Fed. Cir. 2004); *Toshiba Corp.* v. *Imation Corp.*, 681 F.3d 1358, 1365 (Fed. Cir. 2012); or advertising an infringing use, *Chiuminatta Concrete Concepts, Inc.* v. *Cardinal Indus., Inc.*, 145 F.3d 1303, 1311-1312 (Fed. Cir. 1998).

Congress narrowed the inducement rule in § 271(f)(1) somewhat by identifying a specific culpable act that must occur in the United States—namely, supply of "all or a substantial portion of the components of a patented invention." But, as in § 271(b), the inducement requirement provides the primary safeguard

against liability. The question of what was supplied from the United States is relevant only when a party has knowledge of the patent and induces the combination of all components abroad, knowing that the combination will practice the patented invention. It is accordingly unnecessary to contort the meaning of "all or a substantial portion" to pursue Life Technologies' policy goals. Life Technologies and the government ignore the statute's baseline requirement of a culpable mental state in their effort to justify a crabbed reading of the required activity of domestic supply.

Congress's deliberate decision to model § 271(f)(1) after § 271(b) undermines the contention that Congress used the phrase "substantial portion" in § 271(f)(1) to prohibit the "functional equivalent of manufacturing" or to avoid circumvention of a hypothetical statute that required "all" components to be supplied. U.S. Br. 23; Pet. Br. 35; *supra* pp. 29-32. Congress's starting point was not a statute that covered the supply of "all" components, but rather the inducement rule of § 271(b), which does not require the inducer to supply *any* components. *Supra* p. 29. Congress then added the requirement that a defendant supply "all or a substantial portion" of the components. Even viewed in quantitative terms, Congress was counting up from zero, not down from 100%. That legislative history undercuts the argument Congress was focused on the number of components to the exclusion of their relative importance.

The intent requirement in § 271(f)(1) also distinguishes Life Technologies' attempted analogy (at 36) to the doctrine of equivalents. This Court has squarely held that "intent plays no role in the application of the doctrine of equivalents." *Warner-Jenkinson Co.* v. *Hilton Davis Chem. Co.*, 520 U.S. 17, 36 (1997). To be sure,

the doctrine establishes liability for copyists who make only minor changes to a patented product or process, but it requires "the absence of substantial differences" between the accused product or process and the patent *because* it is an expansion of strict liability for direct infringement under § 271(a). *Id.* at 34.[9]

The specific intent requirement in § 271(f)(1) also dispenses with Life Technologies' claim (at 39) that the Federal Circuit's decision may "restrict the free flow of staple articles of commerce." Component manufacturers are free to ship their products around the world as they wish, so long as they do not *intend* their exports to be combined into an invention that they *know* is protected by a U.S. patent and take steps to *induce* that combination.

Without any support or evidence, Life Technologies suggests (at 37) that the Federal Circuit's decision will lead to the export of U.S. jobs because companies will outsource manufacturing to avoid patent liability. This fear is unfounded for at least two reasons.

First, liability under § 271(f)(1) is uncommon—only rarely does a defendant meet the specific elements of both domestic supply of a "substantial portion" *and* the specific intent required for active inducement. Though Life Technologies and the government decry the supposedly broad ruling of the Federal Circuit, they point to no evidence of increased litigation, let alone liability, under § 271(f)(1) in the nearly two years since the court's decision.

Second, whatever incentive to outsource there may be was created by § 271(f)(1) in the first place. By es-

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[9] Additionally, Life Technologies' analogy to the doctrine of equivalents finds no support in the legislative history.

tablishing liability for those who supply a "substantial portion" of the components of a patented invention and actively induce their combination into the patented invention abroad, Congress necessarily created *some* incentive for manufacturers to move *all* of their manufacturing overseas, if possible.[10] For example, the enactment of § 271(f) would have forced Deepsouth to halt its domestic operations or face liability. But this is nothing new. Anyone may take a product that is subject only to a U.S. patent and, by moving manufacturing overseas, make an exact replica abroad without fear of U.S. liability. *Deepsouth*, 406 U.S. at 531. Congress accepted that risk, however, because it determined that domestic companies like Deepsouth were more likely to cease infringement than move production overseas, resulting in increased sales (or licensing revenue) for domestic patent owners. Memorandum from Senator Mathias to Members of the Committee on the Judiciary 2 (Sept. 27, 1984) (predicting that § 271(f) would not cause "wholesale movement of manufacturing facilities offshore" because, among other things, the "prospect is fraught with so much uncertainty, in terms of political and economic stability and attracting qualified personnel," and companies "usually have their principal market in the U.S. and cannot afford to move their manufacturing op-

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[10] This potential impact of § 271(f) was understood long before the Federal Circuit's decision in this case. Indeed, the two principal articles on which Life Technologies relies (at 37-39) for its policy arguments were published many years before this case. Farrand, *Territoriality and Incentives Under the Patent Laws: Overreaching Harms U.S. Economic and Technological Interests*, 21 Berkeley Tech. L.J. 1215, 1277 (2006); Chisum, *Normative and Empirical Territoriality in Intellectual Property: Lessons from Patent Law*, 37 Va. J. Int'l L. 603, 607 (1997). The risks that these scholars identify have existed since § 271(f) was enacted in 1984, but Congress has not seen fit to amend the statute.

eration into a developing country merely to skirt a U.S. patent").

Congress's principal concern was not with protecting companies that wanted to outsource portions of their operations as part of "supply chain management systems" that have developed "since Section 271 was enacted." Agilent Br. 5. Instead, Congress was mainly concerned that too little patent protection was leading to a crisis of innovation in the United States. Congress determined that § 271(f) would maintain "confidence in patents among businesses and investors" by establishing liability for opportunistic, culpable actors—and that increasing patent protection would encourage domestic research and investment. S. Rep. No. 98-663, at 3.

Far from suggesting expansive or unpredictable liability, the facts of this case nicely demonstrate the intended and appropriate reach of § 271(f)(1) to a culpable actor that unquestionably knew of the patent, supplied an important portion of the patented invention from the United States, and intended that the domestically supplied portion be combined into the patented invention. Life Technologies was plainly aware of the Tautz patent—it was the beneficiary of a license that permitted it to practice the patent, though it chafed under the license's limitation to certain fields. *Supra* pp. 6-7. Life Technologies admitted that it supplied *multiple* components from the United States for three of its best-selling Identifiler products. *Supra* p. 9. Nor does Life Technologies contest that it supplied at least *Taq* polymerase from the United States for all accused kits, conceding that this component was a "'main' and 'major'" component. Pet. App. 34a. Finally, Life Technologies was indisputably aware of the intended combination—it outsourced the assembly of infringing kits to its own facility abroad and then sold them around the world.

Id.; Pet. Br. 6. This is precisely the type of intentional conduct that § 271(f) was intended to capture.

B. A Strictly Quantitative Rule Would Lead To Absurd And Arbitrary Results

Life Technologies and the government both advocate purely quantitative rewrites of the statutory text. Pet. Br. 4 ("a large percentage closely approximating all"); U.S. Br. 12 ("all or something close to all"). These atextual definitions would lead to absurd and arbitrary results Congress could have never intended.

For example, under these strict, purely quantitative approaches, a defendant who ships several trivial components of a patented invention could be liable under § 271(f)(1), but a defendant who ships one particularly important component and specifically intends to induce the combination of the entire invention would never be liable if the component had non-infringing uses. Similarly, three domestic companies could enter into an agreement whereby each supplies only one or two of a patent's five components for assembly—with the express intent of making the patented invention abroad—with no fear of liability. Congress could have hardly intended to sanction such inequitable results. *Griffin* v. *Oceanic Contractors, Inc.*, 458 U.S. 564, 575 (1982) ("[I]nterpretations of a statute which would produce absurd results are to be avoided if alternative interpretations consistent with the legislative purpose are available.").

Without offering even one example, both Life Technologies and the government complain that the Federal Circuit's fact-specific inquiry prevents companies from determining in advance whether their domestic supply of an important component will lead to liabil-

ity. Pet. Br. 5; U.S. Br. 24-25. Once again, this argument overlooks the statutory scienter requirement. The only companies at risk are those that know of a patent and induce the assembly of the patented invention abroad with the requisite intent. Adding a further "bright-line rule" regarding the number of components that must be supplied might be "easier to follow than a standard that requires the exercise of judgment in the light of all the circumstances. But ease of application alone is not an excuse for ignoring the purposes of the [statute] and Congress' policy decisions." *Basic Inc.* v. *Levinson*, 485 U.S. 224, 236 (1988). Some degree of uncertainty always inheres in the many factual inquiries that our judicial system commits to a jury.

In any event, the supposed predictability and precision of Life Technologies' purely quantitative rule is a mirage. The only certainty is that fewer culpable actors will be liable for infringement, contrary to congressional intent. *Cf. Basic*, 485 U.S. at 236 (recognizing that a bright-line rule "must necessarily be overinclusive or underinclusive"); *Matrixx Initiatives, Inc.* v. *Siracusano*, 563 U.S. 27, 39 (2011). The government, for its part, concedes (at 26) that replacing a case-specific inquiry with a strictly quantitative rule described as "'nearly all'" or "'virtually all'" adds no precision and "will present some line-drawing problems." That is a manifest understatement. The government acknowledges (*id.*) "the existence of close cases," such as whether 75% of the components is enough, but it offers no suggestion of how a jury (or court) would resolve such cases under its purely quantitative approach. The government likewise recognizes (*id.*) that "a rigid numerical threshold" would be "even clearer," but declines to specify "any such rigid threshold" because it "would invite evasion ... of a statute that is de-

signed to prevent evasion." Nevertheless, a purely quantitative rule does both of the things to which the government objects: It both encourages circumvention and creates uncertainty. Domestic producers will rest assured that supply of up to half of an invention's components (including the most valuable, profitable, and important components) is permissible—a clear threshold that invites evasion. But domestic producers will face uncertainty beyond that point.[11]

The case-specific rule adopted by the Federal Circuit avoids these inequitable and arbitrary results by allowing the factfinder to consider both the quantitative and qualitative importance of the domestically supplied components in context. The court simply held that "there are circumstances in which a party may be liable under § 271(f)(1) for supplying ... a single component for combination outside the United States," and that "based on the *facts of this particular case*," a reasonable jury could have found Life Technologies liable. Pet. App. 28a.

Life Technologies (at 38) and the government (at 24) seize on the Federal Circuit's statement that the kit claimed in the Tautz patent "would be inoperable" without *Taq* polymerase to suggest that the court adopted an unduly expansive definition of substantiali-

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[11] Practically speaking, the government is only kicking the can down the road. If the "substantiality" inquiry is strictly quantitative, as the government insists, then it will not be long before lower courts are forced to decide (on summary judgment, in jury instructions, or in post-verdict motions) whether 60%, 70%, or 75% of an invention's components constitutes a "substantial" portion. The government may have the luxury of not choosing a fixed threshold now, but courts deciding real cases will not. The result will be the "rigid" numerical rule that the government recognizes (at 26) is "not textually plausible."

ty that will govern future cases. Pet. App. 34a. But the court did no such thing. It merely reviewed the jury's verdict with the necessary deference and determined that the verdict was adequately supported. Evidence showed that *Taq* polymerase is essential to the *polymerase* chain reaction at the heart of the Tautz patent, and that Life Technologies' kits therefore cannot perform their primary function—amplification of DNA sequences—without it. Those are undoubtedly relevant facts. Life Technologies' own witness also conceded that *Taq* polymerase was a "'main' and 'major' component[] of the accused kits." Pet. App. 34a. And Promega's witnesses testified that *Taq* polymerase was a "critical component," and that it "make[s] the new DNA" in the amplification process, which is "a key step in the technology." JA136-137, 146. All of this evidence was before the jury.

The court of appeals' correct and narrow holding was that the jury could have reasonably found, on the basis of such evidence, that *Taq* polymerase was important enough to the patented invention to constitute a "substantial portion" of its components. The government (at 24) faults the court for not explaining what "main" or "major" means. But those words were not devised by the court; they came from the testimony of Life Technologies' witness. JA160; Pet. App. 34a. The court merely recognized that Life Technologies' concession about importance was evidence from which a reasonable jury could determine that *Taq* polymerase formed a substantial portion of the kits' components. Pet. App. 33a-34a.

III. The Case-Specific Inquiry Adopted By The Federal Circuit Concerns Only Domestic Conduct And Does Not Implicate The Presumption Against Extraterritoriality

The presumption against extraterritoriality is not implicated here. When Congress enacted § 271(f), it focused on domestic suppliers circumventing U.S. patents by furnishing, for foreign assembly, "a substantial portion of the components" of the patented invention. *Microsoft*, 550 U.S. at 444-445. The "'focus' of congressional concern" was the regulation of domestic suppliers. *Morrison* v. *National Austl. Bank Ltd.*, 561 U.S. 247, 266 (2010) (quoting *EEOC* v. *Arabian Am. Oil Co.*, 499 U.S. 244, 255 (1991)). The Federal Circuit's decision carries no risk of imposing liability for foreign activities because, under any test, Life Technologies' infringing shipments of *Taq* polymerase occurred in the United States. While Life Technologies and the government hypothesize that the decision will impact global commerce, both concede that such an impact was part of Congress's chosen scheme. In any event, adopting an arbitrary numerical threshold will not minimize that impact any more than the case-specific inquiry undertaken by the court below.

A. By its plain terms, the "all or a substantial portion" language governs what must be "supplied ... from the United States"—not assembly, sale, or use abroad. That other components may be sourced from other countries does not convert § 271(f)'s concern with U.S. suppliers into an extraterritorial regulation of foreign conduct. Moreover, whether the foreign recipient actually makes the patented invention abroad is not necessarily relevant. *Waymark Corp.* v. *Porta Sys. Corp.*, 245 F.3d 1364, 1367-1368 (Fed. Cir. 2001). What matters is the domestic supplier's knowledge of the patent,

domestic supply activities, and inducement of the intended combination.

This Court has adopted a "two-step framework for analyzing extraterritoriality issues" that compels the conclusion that the presumption is not implicated here. *RJR Nabisco, Inc.* v. *European Cmty.*, 136 S. Ct. 2090, 2101 (2016). That framework asks: (1) "whether the statute gives a clear, affirmative indication that it applies extraterritorially"; and, if not, (2) whether "the conduct relevant to the statute's focus occurred in the United States." *Id.* The second step of *RJR Nabisco* is dispositive here: Although § 271(f)(1) addresses inducement of foreign combinations, the statute does not purport to "govern[] the manufacture and sale of components of patented inventions in foreign countries." *Microsoft*, 550 U.S. at 456. Rather, Congress "[f]ocus[ed] its attention on" U.S. suppliers taking steps in the United States to evade the rights of U.S. patent holders. *Id.* at 444. The statute's resulting focus is the domestic supply of components with an intent to induce infringement. As is uncontested, Life Technologies' infringing shipments of *Taq* polymerase all occurred in the United States with knowledge of the Tautz patent and the intended combination into a kit that practiced that patent. This case consequently "involves a permissible domestic application even if other conduct occurred abroad." *RJR Nabisco*, 136 S. Ct. at 2101.

Unable to identify any foreign conduct regulated by the Federal Circuit's interpretation of the statute, Life Technologies (at 24, 27) and the government (at 28-29) rely on this Court's statement that "§ 271(f) is an exception to the general rule that our patent law does not apply extraterritorially," and that the presumption therefore "remains instructive in determining the *extent* of the ... exception." *Microsoft*, 550 U.S. at 442,

456. As the reasoning of *Microsoft* makes clear, however, the presumption exists to resolve statutory ambiguity involving liability for *foreign* conduct. The Court's concern in that case stemmed from the plaintiff's effort to establish liability for *foreign-made* copies of software code that was originally exported from the United States. In closing the *Deepsouth* loophole, Congress "did not home in on" the supply of prototypes that could be easily replicated, but on "physical, readily assemblable parts." *Id.* at 457, 458. Hence, as the Court explained, the presumption against extraterritoriality "tugs strongly against" construing "'supplie[d] ... from the United States'" to encompass foreign copying. *Id.* at 455; *see also id.* at 456 ("AT&T's reading ... 'converts a single act of supply from the United States into a springboard for liability each time a copy ... is subsequently made [abroad.]'"). Under the plaintiff's interpretation of § 271(f) in *Microsoft*, "the conduct relevant to the statute's focus" took place almost entirely outside the United States. *RJR Nabisco*, 136 S. Ct. at 2101.

The question presented in this case—whether a defendant can be liable under § 271(f)(1) for "supplying a single, commodity component of a multi-component invention *from the United States*," Pet. i (emphasis added)—does not implicate these concerns. The actionable conduct here is domestic, and there is a direct, one-to-one relationship between each component shipped and every kit assembled abroad. Life Technologies incorrectly asserts (at 27) that its foreign conduct is nonetheless regulated by § 271(f) because it was found liable for foreign sales of kits assembled using partly foreign-sourced components. But liability attached only to Life Technologies' knowing supply of the *Taq* polymerase in a manner that actively induced the kits' assembly

abroad; liability did not attach to Life Technologies' foreign manufacture or sales.

To be sure, Life Technologies' added role as the U.K. assembler and seller of the resulting unlicensed kits made its knowing infringement as a U.S. supplier more obvious and egregious. But Life Technologies' global sales are relevant only to the measure of damages—namely, Promega's lost profits. As the jury properly found, Life Technologies' "worldwide sales were attributable to infringing acts in the United States." Pet. App. 11a. Absent that U.S. infringement, Promega, rather than Life Technologies' U.K. subsidiary, would have sold many more of its U.S. patented kits to the same customers worldwide. Dist. Ct. Dkt. 530, at 13-14.

Life Technologies' approach, if accepted, would turn the presumption against extraterritoriality on its head, turning *U.S. law* into "a craven watchdog" that "retreat[s] to its kennel whenever *some* [foreign] activity is involved in the case." *Morrison*, 561 U.S. at 266. This runs counter to the text of § 271(f), which explicitly imposes liability for U.S. exports in contemplation of foreign assembly. *See RJR Nabisco*, 136 S. Ct. at 2101 ("If the conduct relevant to the statute's focus occurred in the United States, then the case involves a permissible domestic application even if other conduct occurred abroad[.]"). Life Technologies' reliance on the presumption is an attempt to distract from its domestic infringement and to train this Court's attention on foreign activities that are not § 271(f)'s focus, were not the basis of the jury's finding of liability, and are not reached or implicated by the Federal Circuit's decision.

Life Technologies asserts (at 31) that the Federal Circuit's decision "could also lead to tensions and trade

conflicts with foreign sovereigns." But neither Life Technologies nor the government explains how § 271(f)'s application to Life Technologies' U.S. exports will create the type of conflict the presumption serves to avoid—"the international discord that can result when U.S. law *is applied to conduct in foreign countries*," *RJR Nabisco*, 136 S. Ct. at 2100 (emphasis added).

Life Technologies' attempt (at 30-31) to manufacture a potential conflict between European Union antitrust law and the Federal Circuit's decision is baseless. The E.U. cases cited by Life Technologies (at 31) concern special antitrust considerations that arise in the context of so-called standard-essential patents—patents that must be practiced in order to comply with an interoperability standard. *See* Case C-170/13, *Huawei Techs. Co.* v. *ZTE Corp.* ¶ 21 (July 16, 2015); Case AT.39985, *Motorola* ¶¶ 98-99 (Apr. 29, 2014). The Tautz patent is not standard-essential. Moreover, the cases concern the rights of European patent holders seeking remedies for infringement in Europe—they do not suggest European concern about remedies sought on U.S. patents in U.S. courts for a component shipped from U.S. soil. Nor do they even suggest any conflict in the actual policies of the European Union and the United States.[12]

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[12] *Huawei Technologies* and *Motorola* both involved standard-essential patents. To avoid potential anti-competitive use to exclude others from the market, these patents are often subject to special conditions that require patent owners to license them on "fair, reasonable, and non-discriminatory" terms. DOJ & PTO, *Policy Statement on Remedies for Standards-Essential Patents Subject to Voluntary F/RAND Commitments* 1 & n.1, 5 (Jan. 8, 2013). In recent years, domestic and foreign courts and competition authorities alike have voiced concerns about the power of a

There is no dispute that foreign law governs foreign patent rights, including "the manufacture and sale of components of patented inventions in foreign countries." *Microsoft*, 550 U.S. at 456. Section 271(f) embodies *Congress's* policy judgment and applies it to U.S. activity. Its application to Life Technologies' U.S.-based supply of *Taq* polymerase does not trench on foreign law or impair foreign sovereigns' "'different policy judgments about the relative rights of inventors, competitors, and the public.'" *Id.* at 455. Here, unlike in *Microsoft*, there is no "impermissible extraterritorial application." *RJR Nabisco*, 136 S. Ct. at 2101. As a result, the presumption against extraterritoriality cannot nudge, much less "tug[]," in Life Technologies' favor. *Microsoft*, 550 U.S. at 455.

B. Even if the presumption did apply, it would not support Life Technologies' and the government's interpretation. As the government concedes (at 29), § 271(f)(1) *invariably* has "a practical impact on the activities of foreign assemblers," and Congress "intended" as much. *See also* Pet. Br. 26. The presumption is not a general policy to minimize impacts Congress expressly considered; it is "a canon of statutory construction" to avoid regulation of foreign conduct that was not Congress's "focus." *RJR Nabisco*, 136 S. Ct. at 2100; *cf. Microsoft*, 550 U.S. at 457-458. In any event, a strictly

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standard-essential patent owner to seek injunctive relief as a hold-up tactic to demand a higher licensing fee or settlement in litigation. *Id.* 7-8 & n.15; *see also, e.g.*, *Apple Inc.* v. *Motorola, Inc.*, 757 F.3d 1286, 1331-1332 (Fed. Cir. 2014), *overruled on other grounds by Williamson* v. *Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015). Life Technologies has not identified any point of E.U.-U.S. contention on this issue, however, nor are these policy concerns at all implicated in this case.

quantitative rule is not demonstrably narrower even by Life Technologies' flawed measure.

Life Technologies' extraterritoriality argument ultimately boils down to an unsubstantiated assertion that a numerical test mitigates U.S. manufacturers' risk of liability and thus the effect on global commerce. That defies common sense. For example, on Life Technologies' interpretation, a U.S. manufacturer may be held liable for supplying multiple identical fasteners that hold together the outer housing of a device, but not for supplying a single processor that is the heart of the invention. Even a general policy to minimize interference with global commerce scarcely compels a statutory construction that permits liability for one commodity as opposed to the other based on contingencies of assembly rather than the function performed with respect to the underlying patent. Life Technologies' rigid numerical threshold would be a windfall for makers of processors because each device typically has only one. But it would impose a *greater* risk of liability for makers of minor components like fasteners whenever a single device requires many. Nothing in the statute or legislative history suggests Congress intended such an arbitrary scheme.

Life Technologies contends (at 32) that the Federal Circuit's rule is problematic because it "requires only an *in*substantial amount of domestic conduct to trigger regulation of a substantial amount of foreign conduct." First, this misses the point because only the defendant's domestic conduct is at issue, and the requirement that the defendant supply a "substantial portion" from the United States with specific intent is hardly "insubstantial." Second, the argument only makes sense if one assumes that all components have the same value, such that supplying two components from the United

States is always accompanied by less substantial foreign conduct than supplying one component from the United States. But the domestic supplier of a major or essential component who actively induces an infringing combination may play a much more substantial role than a supplier who furnishes several trivial components.

Life Technologies' and the government's neglect of qualitative significance actually has the potential to heighten § 271(f)(1)'s extraterritorial effects in situations involving U.S. exports of multiple components that are of trivial significance. A sound policy of minimizing the impact abroad would take into account *both* the relative importance and the quantity of the components supplied from the United States. Life Technologies' and the government's test categorically—and unnecessarily—excludes one. Again, nothing in the statute's text, history, or purpose suggests such an artificial limitation.

IV. Even If Its Interpretation Were Correct, Life Technologies Would Not Be Entitled To Judgment As A Matter Of Law

The government states (at 27) that this case "comes to the Court on the assumption[] that ... petitioners are entitled to judgment as a matter of law unless the domestic supply of *Taq* polymerase alone is sufficient to trigger liability under Section 271(f)(1)." That is manifestly incorrect. Even if this Court were to adopt a new interpretation of § 271(f)(1), the most Life Technologies would be entitled to is a new trial.

First, the district court's grant of judgment as a matter of law depended on the erroneous premise that Promega had not quantified any damages from Life Technologies' infringing sales in the United States.

The court of appeals rejected that premise, noting that "Promega presented evidence to the jury showing sales of [Life Technologies'] accused kits in the United States." Pet. App. 35a (citing A6249-6268, 7031-7170, 7362-7744, 7906-8002); *supra* p. 9 & n.5. The court of appeals thus reinstated the judgment of infringement under § 271(a) and remanded for further proceedings on damages. Life Technologies has not challenged that ruling in this Court, and there is no basis for disturbing it.

Second, Life Technologies admitted that, for three of its best-selling Identifiler kits, it supplied *multiple* components from the United States. Specifically, its witness identified 10 primers supplied from the United States. *Supra* p. 9. Life Technologies now argues (at 9), for the first time in this Court, that "[t]he manufacture of Life Technologies' primer-mix component ... occurs in the United Kingdom." But that argument fails to view the facts in the light most favorable to the jury verdict. Fed. R. Civ. P. 50(a); *Patrick* v. *Burget*, 486 U.S. 94, 98 n.3 (1988).[13] Nor can it be reconciled with Life Technologies' admission that for the "Identifiler, Identifiler Direct and Identifiler Plus" kits, "two com-

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[13] Among other things, Life Technologies' new argument cannot be reconciled with the plain language of claim 42 of the Tautz patent. The relevant claim element requires "at least one vessel containing a mixture of primers constituting *between 1* and 50 of [the] primer pairs." JA127 (emphasis added). The "component[] *of a patented invention*," 35 U.S.C. § 271(f)(1) (emphasis added), therefore comes into being with a single primer pair, and Life Technologies admittedly supplied multiple primers from the United States. Even assuming Life Technologies added more primers in the United Kingdom, it would not change the fact that it had already supplied the relevant "component of the patented invention" when it shipped the other primers from the United States.

ponents of the claimed invention (primers and PCR enzyme) were supplied from the U.S." A2303.

Indeed, Life Technologies expressly waived any argument under Rule 50 about insufficient evidence that it supplied "all or a substantial portion of the components of the patented invention" for those three kits. A6505 ("for the Identifiler Kit ... there is evidence that could go to the jury."); *supra* p. 9. There is no basis—or authority—to grant Life Technologies judgment as a matter of law on a point that it waived. *E.g.*, *Neely* v. *Martin K. Eby Constr. Co.*, 386 U.S. 317, 324 (1967) (where party that "ha[s] not moved for judgment [as a matter of law] in the trial court," an appellate court is "precluded from directing any disposition other than a new trial"); Promega C.A. Br. 36-41. Accordingly, the most Life Technologies can demand is a remand for a new trial, not entry of judgment, as the government erroneously suggests (at 27).[14]

A new trial is unnecessary, however, because the court of appeals' decision is correct. That decision respects the jury's role in determining, in light of all the relevant facts, whether a component supplied from the United States constitutes "a substantial portion of the components of a patented invention." The jury's determination of this issue was amply supported by the record here. And this Court should reject Life Technologies' request to set that verdict aside on the basis

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[14] The sole reason for the district court's decision on the Identifiler kits was the incorrect assumption that Promega never quantified damages for those kits apart from worldwide sales on all kits. Even a brief glance at the record dispels that clear error. *E.g.*, A7180-7186, 7188-7192, 7196-7204, 9323-9324; Promega C.A. Br. 53-54.

of a rigid numerical rule that conflicts with § 271(f)'s text, history, and purpose.

CONCLUSION

The judgment of the court of appeals should be affirmed.

Respectfully submitted.

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LIFE TECHNOLOGIES CORPORATION; INVITROGEN IP HOLDINGS, INC.; APPLIED BIOSYSTEMS, LLC,

Petitioners,

v.

PROMEGA CORPORATION,

Respondent.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

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INTRODUCTION

Promega does not defend the Federal Circuit's interpretation of 35 U.S.C. § 271(f)(1). Promega does not argue that the term "substantial" in the phrase "all or a substantial portion of the components of a patented invention" should be defined to mean "important." Instead, Promega asks this Court to rule that the phrase "substantial portion" can mean anything a jury decides it means. A jury can base liability for foreign sales on the amount of components supplied from the United States *or* the importance, or even the price, of any one component. Brief for Respondent ("Br.") 12. Guided only by a "wide range of factors" that include literally "any ... relevant evidence" of a component's "significance to the invention as a whole," Br. 33-34, Promega would have juries decide whether the supply of even a single commodity component like *Taq* polymerase, used for its well-known function, exposes the supplier to worldwide patent infringement damages.

What Promega has proposed is not statutory interpretation, but the abandonment of a court's role to define the meaning of a statute. There is no reason to believe Congress intended § 271(f)(1) to empower unguided juries to decide when a product that incorporates *any* U.S.-sourced component can trigger U.S. patent liability for worldwide sales. No principle of statutory interpretation supports this approach. To the contrary, strong textual and structural indications—including especially the interplay of § 271(f)(1) with § 271(f)(2)—demonstrate that the phrase "substantial portion" refers to the number, not the importance, of the components supplied.

Promega criticizes the quantitative interpretation as difficult to administer in some imagined cases.

But its own amorphous test ensures that domestic component suppliers will be unable to plan for potentially massive patent liability for foreign sales by their customers. Promega cannot deny that its extraordinarily vague and expansive test will seriously harm U.S. component manufacturers, forcing them to relocate offshore to avoid risk of liability. Nor does it deny that this result is directly contrary to Congress's intent in passing the statute.

Promega also cannot square its proposal with the presumption against extraterritoriality, which applies "with particular force in patent law." *Microsoft* v. *AT&T Corp.*, 550 U.S. 437, 454–55 (2007). So Promega tries to evade that presumption altogether, arguing it is inapplicable because supplying a single commodity component from the United States is "domestic conduct." *E.g.*, Br. 44 (capitalization omitted). But Promega ignores that the statute regulates foreign conduct by establishing liability for foreign actors who "cause[] to be supplied ... from the" U.S. a component of an invention. 35 U.S.C. § 271(f)(1). Promega also ignores all the other foreign conduct its proposal implicates—the supply of the remaining components, their assembly into the finished kits, and the sale of the kits. Promega's argument is thus irreconcilable with cases reaching back to *Brown* v. *Duchesne*, 60 U.S. (19 How.) 183 (1857), that applied the presumption to reject the extension of U.S. patent law over products manufactured and sold abroad.

Finally, Promega contends that the district court's grant of judgment as a matter of law should not be reinstated because Life Technologies supposedly conceded that two components constituted a "substantial portion" of the invention, and that two components of certain kits were supplied from the U.S. Life Technologies, however, made no such concessions. Ra-

ther, the district court correctly held that *Promega* conceded that judgment as a matter of law is appropriate unless Life Technologies supplied multiple components of all kits from the U.S. The Federal Circuit's erroneous interpretation of § 271(f)(1) should be reversed, and the district court's judgment in Life Technologies' favor under § 271(f)(1) should be reinstated.

I. PROMEGA'S INTERPRETATION IS INCONSISTENT WITH THE STATUTE'S TEXT AND STRUCTURE.

This case presents a pure question of law for this Court to resolve de novo: whether the Federal Circuit erred in interpreting the word "substantial" in § 271(f)(1) to mean "important," such that a single commodity component can be deemed "all or a substantial portion of the components" of a multi-component invention. Pet. App. 28a-29a. Promega's response is to urge this Court to abandon interpreting the statute. To Promega, this case involves a "case-specific factual finding" with "ample support in the record" that is "entitled to deference" from this Court. Br. 16. That is not how statutory interpretation works. The point is to interpret the statute so that manufacturers, judges and juries will know what conduct will expose U.S. exporters and their foreign customers to potential liability. Life Technologies and the United States have offered such an interpretation: "the phrase 'all or a substantial portion of the components' means all or something close to all of the components, rather than just one." Brief for the United States as Amicus Curiae Supporting Petitioners ("U.S. Br.") 8; Pet. Br. 3-4. Promega has not.

At Promega's urging, the Federal Circuit defined "substantial" to mean "important." Promega now

abandons that interpretation, instead defining "substantial" to mean "considerable in amount *and/or* importance." Br. 12 (emphasis added). Moreover, this "test" makes anything and everything relevant:

> the component's function relative to the patented invention; the component's economic cost and value; its novelty within the industry; the extent to which the component is featured or discussed in materials promoting the invention; whether it is necessary for the invention to function; and any other relevant evidence.

Br. 33-34. This is no test at all. It simply leaves the question for a jury to decide on an *ad hoc*, unpredictable basis. The statute's text and structure provide no support for this view.

1. Promega's interpretation impermissibly combines separate meanings of the word "substantial." When a statutory term could bear more than one meaning, the Court's role is "to resolve that ambiguity," *Robinson* v. *Shell Oil Co.*, 519 U.S. 337, 345 (1997), by making "a selection between accepted alternative meanings," *MCI Telecomms. Corp.* v. *Am. Tel. & Tel. Co.*, 512 U.S. 218, 227 (1994). Considered in isolation, the word "substantial" could mean either "essential, material," or "[o]f ample or considerable amount, quantity, or dimensions." 2 *Compact Edition of the Oxford English Dictionary* 3129 (1980). Major dictionaries—including two of the three dictionaries Promega relies upon—list the quantitative and qualitative senses as *different* definitions. *Id.*; Br. 18; see also *Webster's New Twentieth Century Dictionary* 1817 (2d ed. 1981) (same).[1] Promega's suggestion

[1] One dictionary provides a combined definition: "[c]onsiderable in importance, value, degree, amount, or extent." Br. 18

that this Court should not decide which meaning the statutory term bears as a matter of law, but instead should leave it to juries to determine in each case, is simply not statutory interpretation. Br. 12.

The ordinary tools of statutory construction clearly demonstrate that the word "substantial" in § 271(f)(1) bears a quantitative, not a qualitative, meaning. Promega does not contest that the surrounding words, including "all" and "portion," are quantitative in nature. See *Yates* v. *United States*, 135 S. Ct. 1074, 1085 (2015) (plurality). Rather, Promega argues that "the use of the disjunctive 'or' presumptively signals Congress's intent to give the two statutory terms" their "separate, normal meanings." Br. 23. But the question is what the use of the terms demonstrates about the meaning of the phrase as a whole. As the United States explains, the inclusion of "all or" shows both that the word "substantial" is being used in a quantitative sense, and that substantiality should be judged based on how close the portion of components supplied is to *all* of the components. U.S. Br. 25; see *id.* at 15. Under Promega's interpretation, the phrase "all or" is superfluous, because "the supply of 'all ... the components' necessarily encompasses the

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(quoting *The American Heritage Dictionary of the English Language* 1284 (1978)). The law review article Promega cites discussing a similar definition criticizes reliance on that definition in statutory interpretation as "inherently ambiguous and vague." Michael J. Malaguti, *Substantial Confusion: The Use and Misuse of the Word "Substantial" in the Legal Profession*, 52 N.H. Bar J. 6, 10 (Autumn 2011). The "fuller and more explanatory" definitions of most dictionaries, reflecting the obvious conceptual differences between quantitative size and qualitative importance, provide far better guidance than the "unreliable, rather threadbare definition[]" Promega asks this Court to adopt. A. Scalia & B. Garner, *Reading Law: the Interpretation of Legal Texts* 416-17 (2012).

supply of all the *important* ones." Br. 24 (alteration in original); see *Lowe* v. *SEC*, 472 U.S. 181, 208 n.53 (1985) ("we must give effect to every word that Congress used in the statute").

The use of the same phrase in other statutes further confirms its quantitative meaning. Three other statutes use the phrase "all or a substantial portion," and Promega concedes that "all of the statutes contemplate some amount or quantity," not "qualitative importance." Br. 20-21. Numerous other federal statutes similarly use the phrase "substantial portion" in a quantitative sense. See, *e.g.*, 16 U.S.C. § 1539(b)(2)(B) ("persons who ... derived a substantial portion of their income from the lawful taking of any listed species"); 20 U.S.C. § 1087-2(q)(2)(A) ("a substantial portion of eligible borrowers in such State"); 33 U.S.C. § 1286(f)(1) ("a substantial portion of the funds allocated to a State").

By contrast, none of the statutes that Promega relies upon uses the phrase "all or a substantial portion," and only one even includes the phrase "substantial portion." Promega's examples therefore demonstrate nothing more than that the word "substantial" can sometimes have a qualitative meaning, depending upon the context—a point that no party has disputed.

Promega relies most heavily upon *Goulding* v. *United States*, 957 F.2d 1420 (7th Cir. 1992), deferring to the Commissioner of Internal Revenue's position that the phrase "a substantial portion of a return" in 26 U.S.C. § 7701(a)(36)(A) can encompass a single entry that is of sufficient value and length. 957 F.2d at 1425. As the United States points out, this example does not support Promega's interpreta-

tion because that statute refers to "a substantial portion of any return," not "a substantial portion of the entries in a return." U.S. Br. 14-15 (emphasis omitted). A single entry that represents the vast majority of the length and value of a return could logically be a "substantial portion" of that return, "but it would be odd to say that a person who prepares only a single tax entry, even if large and complex, prepares a 'substantial portion *of the entries* in a return.'" *Id.* at 15. Here, if § 271(f)(1) imposed liability for the supply of a "substantial portion *of an invention*," the meaning of the word "substantial" would be far more ambiguous. *Id.* at 8. But the phrase "a substantial portion *of the components* of a patented invention" demonstrates "that the provision's applicability should turn on a comparison between the number of components supplied and the total number of components, rather than on an assessment of the importance of an individual component to the invention as a whole." *Id.* at 8-9. The holdings of certain state courts that an extremely valuable asset can be "substantially all" of a corporation's assets, Br. 20, have no bearing here for similar reasons.

Promega also relies upon this Court's holding that the Copyright Act's reference to "the amount and substantiality of the portion used" requires an "evaluation of the qualitative nature of the taking." *Harper & Row Publishers, Inc.* v. *Nation Enters.*, 471 U.S. 539, 564-65 (1985). Again, however, the context and phrasing of that statute are quite different from § 271(f)(1). The use of the phrase "*amount and* substantiality" demonstrates that the word "substantiality" in the Copyright Act cannot refer to the amount that is copied; otherwise, the statute's separate reference to "amount" would be surplusage.

Finally, Promega points to the Ninth Circuit's qualitative interpretation of 16 U.S.C. § 1532(6), Br. 19, covering a species "in danger of extinction throughout all or a significant portion of its range." *Defenders of Wildlife* v. *Norton*, 258 F.3d 1136, 1137 (9th Cir. 2001). That statute, however, does not use the word "substantial" at all. Further, the Ninth Circuit's holding was not driven by a textual analysis, but rather by the perceived purposes of the statute, its legislative history, and the practical consequences of each interpretation. Indeed, the court concluded that the statutory text was "inherently ambiguous, as it appears to use language in a manner in some tension with ordinary usage." *Id.* at 1141. Here, § 271(f)(1)'s text, structure, and purposes, as well as the presumption against extraterritoriality, all demonstrate that the phrase "substantial portion" refers to the number, not the importance, of the components supplied.

2. Promega's interpretation of § 271(f)(1) also cannot be squared with its companion provision, § 271(f)(2). Paragraph (f)(2) demonstrates that Congress did not intend liability to turn upon an amorphous, multi-factor analysis of a component's "importance"; instead, Congress adopted the well-defined and familiar patent standard of whether a component "is especially made or especially adapted" for the invention, excluding liability for the supply of a single "commodity of commerce." This "carefully crafted limit on liability would be substantially undermined if the domestic supplier of a single 'staple article or commodity' could be held liable under paragraph (1)." U.S. Br. 9. Indeed, under Promega's interpretation, § 271(f)(1) would all but subsume § 271(f)(2): Promega points to no circumstances where a component that is "especially made or especially adapted"

for an invention under (f)(2) would not also meet its malleable standard for "importance" under (f)(1).

Paragraph (f)(1)'s consistent use of the plural "components," compared with paragraph (f)(2)'s consistent use of the singular "component," is another strong textual indication that (f)(1) requires the supply of more than one component. Promega argues that the plural phrase "such components" in (f)(1) refers to all components of the invention, not the components supplied from the U.S., because only the combination of all components would "infringe [the patent] if such combination occurred within the United States." Br. 24. But Promega concedes that (f)(2) "uses the term 'such component' to refer to the matter supplied from the United States" in parallel phrasing, Br. 26, requiring that "such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States," 35 U.S.C. § 271(f)(2). The parallel phrases in these two subsections cannot reasonably be given opposing meanings. See *Mohasco Corp.* v. *Silver*, 447 U.S. 807, 826 (1980). Rather, both paragraphs are plainly referring to the combination of "such component[s]" supplied from the U.S. with the *remainder of the components of the invention supplied abroad* to create the entirety of the invention. See U.S. Br. 20.

Promega also offers the canard that "reading 'such components' to refer exclusively to what is supplied from the United States could permit a defendant to avoid liability under § 271(f)(1) merely by combining the U.S.-supplied components together into a single component before shipping it abroad." Br. 25. But U.S.-supplied components combined before export would still constitute multiple components "of a pa-

tented invention," and would still be "uncombined ... in part," because they would not be combined with the remainder of the components of the invention. See U.S. Br. 20 n.6.

In short, the statutory text and structure demonstrate that "substantial portion" refers to the quantity, not the importance, of the components.

II. THE PRESUMPTION AGAINST EXTRATERRITORIALITY FORECLOSES PROMEGA'S INTERPRETATION OF SECTION 271(f)(1).

In addition, the presumption against extraterritoriality forecloses Promega's unduly expansive standard. Promega barely contests that its approach would harm U.S. trade and create tensions with foreign sovereigns. Among other things, the Federal Circuit's interpretation "is at best of doubtful legitimacy under" international trade agreements including GATT and TRIPS, Brief of Bundesverband der Deutschen Industrie E.V., et al. ("BDI Br.") 10, and conflicts with E.U. patent and competition law, *id.* at 11-17.

Promega argues that such impacts are irrelevant, because its interpretation would not reach "conduct in foreign countries." Br. 47-48 (emphasis omitted). But that assertion simply ignores that Promega is asking to recover patent damages based on overwhelmingly foreign conduct: combining one U.S.-sourced commodity component with many foreign-sourced components and making and selling the product in countries where there is no foreign patent

protection. U.S. Br. 11.[2] Promega's insistence that no "foreign conduct" is being regulated rings particularly hollow because Promega sought and was awarded damages under U.S. patent law for *worldwide* sales of kits manufactured in foreign countries. JA143-44; JA166; JA173-74. Promega insists that Life Technologies' "global sales are relevant only to the measure of damages." Br. 47. But an award of damages based on foreign sales constitutes a regulation of those foreign sales. See *Riegel* v. *Medtronic, Inc.*, 552 U.S. 312, 324 (2008) (damages "liability award can be, indeed is designed to be, a potent method of governing conduct"). And the presumption against extraterritoriality applies when a litigant seeks "recovery for foreign injuries." *RJR Nabisco, Inc.* v. *European Cmty.*, 136 S. Ct. 2090, 2106-07 (2016) (plurality). Moreover, under the Federal Circuit's ruling that a company can "induce" itself to infringe, a foreign manufacturer that makes and sells products entirely abroad could also be held liable for "caus[ing] to be supplied in or from the United States" a single commodity component. 35 U.S.C. § 271(f)(1).

Deepsouth further demonstrates that the solitary U.S. action of supplying one commodity component does not make the presumption inapplicable: that case applied the presumption even though the domestic manufacturer supplied *all* of the components from the United States, and only the final assembly occurred abroad. *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518, 531 (1972). Indeed, as far back

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[2] Promega's suggestion that § 271(f)(1) does not require that "the foreign recipient actually makes the patented invention abroad" is incorrect. Br. 44; *see Applera Corp.* v. *MJ Research Inc.*, 311 F. Supp. 2d 293, 301 n.1 (D. Conn. 2004).

as *Brown* v. *Duchesne*, 60 U.S. (19 How.) 183 (1857), the Court has applied the presumption to reject the application of U.S. patent law over products made and sold abroad.

Microsoft similarly held that "[a]ny doubt" that "conduct falls outside § 271(f)'s compass would be resolved by the presumption against extraterritoriality." 550 U.S. at 454. Promega attempts to distinguish *Microsoft* as involving "*foreign-made* copies of a master version of software," not a U.S.-supplied "component." Br. 15. But the question presented in that case was whether the master version of the software supplied from the U.S. "qualif[ied] as a component under § 271(f)." *Microsoft*, 550 U.S. at 447. The Court applied the presumption in interpreting the word "component," holding that it "tugs strongly against" the Federal Circuit's broad construction. *Id.* at 455. The Court should follow the same approach here, in construing the phrase "all or a substantial portion."

Finally, Promega argues that the presumption does not apply because the United States and Life Technologies' interpretation is "not demonstrably narrower" than its own. Br. 49-50. This is baffling given how Promega is advocating throwing every case to a jury to decide. Indeed, Promega criticizes Life Technologies' standard for its "certainty ... that fewer culpable actors will be liable for infringement." Br. 41. Under the quantitative interpretation, § 271(f)(1) requires the supply of "a large percentage closely approximating all" of the components. Pet. Br. 4; see U.S. Br. 8. Thus, "makers of minor components," Br. 50, will not face liability unless the totality of what they supply is close to all of the components. Promega, by contrast, would hold manufacturers lia-

ble if they supply a "considerable ... amount" of components, *or* if they supply at least one component that is "important" for any reason a jury deems appropriate. Br. 12, 33.

The facts of this case highlight the near limitless malleability of Promega's proposal. The only evidence of "substantiality" Promega or the Federal Circuit identifies is testimony that *Taq* polymerase is a "main" component, and is needed for the kit to operate. Br. 8-9; Pet. App. 34a. But the same witness identified three out of the five components as "main" components. JA160. And Promega's expert testified that the remaining components were also "important" and needed for the kits to function. JA139 (the "control DNA" is "important," and must be included to "make sure the test worked"); JA138 ("we need to have" the buffer solution "because the chemical reaction can't take place in just simply water"); *id.* (the primers "are absolutely critical to this whole procedure"); *id.* (the kits "need to have" nucleotide mix "to make new DNA"). Thus, under Promega's test, any one of the five components, in isolation, would constitute "all or a substantial portion of the components" and trigger liability for worldwide sales. See U.S. Br. 16.

Promega's anything-goes interpretation conflicts with the "legitimate sovereign interests of other nations," *Microsoft*, 550 U.S. at 455, and could lead to serious international tensions. See Pet. Br. 30-33; U.S. Br. 29-30. "Any doubt" about the scope of § 271(f)(1) should be resolved by applying the presumption and rejecting Promega's importance-based interpretation. *Microsoft*, 550 U.S. at 454.

III. PROMEGA'S INTERPRETATION IS CONTRARY TO THE PURPOSES OF THE STATUTE AND UNADMINISTRABLE.

1. Promega's interpretation should also be rejected because it is contrary to the purposes of the statute. Promega agrees that § 271(f)(1)'s primary purpose is to close the loophole made evident in *Deepsouth* and "prevent defendants from deliberately circumventing U.S. patent law." Br. 27; see *Microsoft*, 550 U.S. at 457-58. But Promega then inaccurately argues that the "circumvention" Congress had in mind was "shipping major components of patented inventions from the United States." Br. 27. Rather, Congress was "focus[ed] on conduct that closely resembles the evasive conduct in *Deepsouth* and can reasonably be viewed as the functional equivalent of illicitly manufacturing the patented invention in the United States for export." U.S. Br. 10. Supplying a single commodity component from the U.S. "bears little resemblance to effectively manufacturing the invention in the United States," and is not the type of conduct Congress intended to prohibit. *Id.*

Promega points out that an earlier, rejected draft of the bill "would have prohibited a party from supplying 'the material components of a patented invention,'" arguing that this language demonstrates "Congress's attention was on the importance—not the number—of the components supplied." Br. 28 (emphases omitted). But this Court "ordinarily will not assume that Congress intended to enact statutory language that it has earlier discarded in favor of other language." *Chickasaw Nation* v. *United States*, 534 U.S. 84, 93 (2001). The rejected version undermines Promega's view. Congress's reason for rejecting the "material component" standard is also illumi-

nating: it was concerned that this broad standard would "deter the sale of components which are staple articles suitable for substantial noninfringing use." *Patent Law Improvement Act: Hearing Before the Subcomm. on Patents, Copyrights, and Trademarks of the S. Comm. of the Judiciary*, 98th Cong. 26 (1984). Congress protected the free flow of staple articles by splitting § 271(f) into two paragraphs: (f)(2), which excludes commodity components entirely, and (f)(1), which limits liability to "all or a substantial portion of the components."

Promega spends several pages arguing that its interpretation will only reach "culpable" manufacturers, because the supplier must intend that its customer will combine components overseas in a manner that would infringe a U.S. patent if performed domestically. Br. 34-40. This focus on "intent" is a distraction. The question this case asks is not whether a domestic supplier knows that the foreign-sold product is protected by a U.S. patent. The question is *when* does a U.S. patent reach such foreign sales. Generally, a product protected only by a U.S. patent may freely be made and sold overseas. *Microsoft*, 550 U.S. at 441. There is nothing "culpable" or illegal about participating in such sales, even if the U.S.-based supplier knows that its customer's product would infringe if sold in the U.S. Promega's assumption that Congress wanted to broadly expose manufacturers to U.S. patent liability for foreign sales based only on this intent is incompatible with the presumption against extraterritoriality—as well as with the United States' treaty obligations. See 10, *supra*.

Noting that § 271(f)(1)'s inducement requirement was drawn from §271(b), Br. 30, Promega contends that Congress was concerned with intent rather than

"the number of components," *id.*, because "a domestic sale of a single, non-staple component may create liability ... for inducement under § 271(b)," Br. 31-32. But Congress did not simply extend the § 271(b) standard for inducement to foreign sales. Congress added the requirement that "all or a substantial portion of the components" of an invention be supplied from the U.S. And as the United States observes, paragraph (f)(2) "contains substantially the same intent element" as paragraph (f)(1). U.S. Br. 21. Paragraph (f)(2) requires both "knowing" of the patent and "intending that such component will be combined outside of the United States in a manner that would infringe the patent." 35 U.S.C. § 271(f)(2). The "active inducement" element of paragraph (f)(1) is no more stringent, "requir[ing] knowledge of the patent and an intent that the domestically supplied components be combined into the patented invention." Br. 35. Yet "Congress nevertheless limited Section 271(f)(2) to the supply from the United States of a component that is ... not a staple article." U.S. Br. 21. The fact that Congress "specifically declined to impose infringement liability under Section 271(f)(2) for exporting a single staple article, *even when* the supplier knows and intends that it will be used to manufacture a patented invention abroad," demonstrates that Congress did not consider the intent element alone as sufficient protection for commodity components. *Id.* at 21-22.[3]

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[3] Further, while Promega apparently assumes that the "inducement" requirements of § 271(b) and § 271(f)(1) are the same, the Federal Circuit held below that § 271(f)(1) requires only that the defendant "cause" the "combination" of components abroad. Pet. App. 24a-27a. Thus, the Federal Circuit's interpretation of

By virtually eliminating the "substantial portion" requirement, Promega's interpretation would also frustrate Congress's intent to promote U.S. manufacturing jobs. Promega contends that Congress "determined that domestic companies like Deepsouth were more likely to cease infringement than move production overseas." Br. 38. But this determination makes sense *only* under Life Technologies' and the United States' construction of the statute: if a domestic company is completing nearly all the steps of manufacturing the product in the U.S., then § 271(f)(1) will discourage it from moving final assembly offshore. Pet. Br. 37. By contrast, Promega's expansive interpretation will sweep in foreign sales whose only connection to the U.S. is the sourcing of a single commodity component. That approach will "creat[e] major obstacles to the routine inclusion of United States firms and facilities in multinational manufacturing and supply arrangements," forcing U.S. component manufacturers to relocate offshore. BDI Br. 3. This Court should not adopt an overbroad interpretation that will operate directly contrary to Congress's intent.

2. Promega also contends that the quantitative interpretation will be difficult to apply and lead to "absurd" results. Br. 40-43. But determining whether close to all of the components of an invention has been supplied from the U.S. will generally be a relatively simple matter. U.S. Br. 26.

By contrast, Promega's test is fundamentally unclear and unworkable. Promega lists a wide variety of factors it deems pertinent, including a component's

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the inducement requirement leaves unclear whether § 271(f)(1) even requires the defendant to have knowledge of the patent.

"novelty," its "cost and value," its "function," marketing materials, and the number of components, Br. 33-34. But Promega offers no guidance as to how these factors are to be weighed, or how many factors must be present to render a portion "substantial." *Compare* Br. 12 ("substantial" means "considerable in amount *and/or* importance) (emphasis added), *with* Br. 18-19 (substantiality "turns on *both* the number of components supplied *and* their qualitative importance and value"). Promega even proposes a catch-all at the end of its list of unranked factors—and "any other relevant evidence"—leaving domestic component suppliers with nothing but speculation about how a jury would evaluate its conduct. Potential worldwide liability would always involve a "fact-intensive, case-specific inquiry" by the jury. Br. 12. But pointing to the jury's role as the fact-finder is no excuse for failing to provide a legal standard that is "conceptually stable or administrable," U.S. Br. 24, against which allegedly infringing conduct can be measured.

Promega also erroneously contends that the quantitative interpretation "would lead to absurd and arbitrary results," Br. 40, because "a U.S. manufacturer may be held liable for supplying multiple identical fasteners that hold together the outer housing of a device, but not for supplying a single processor that is the heart of the invention." Br. 50. Both halves of this assertion are wrong. If the "single processor" is "the heart of the invention," then it would not be a "staple article or commodity of commerce," and the manufacturer would be liable under 35 U.S.C. § 271(f)(2).

It is also highly unlikely that minor fasteners alone would "closely approximat[e] all" of the components of

the invention under § 271(f)(1). Pet. Br. 4. Indeed, the fasteners would probably not even qualify as components. As the United States explains, "[t]he starting point for identifying 'components' is to examine the elements of the relevant patent claim to identify constituent parts." U.S. Br. 27 n.7. Any part that is "not covered by any element of the patent claim" is not a component of the invention. *Id.* Thus, a manufacturer "could not evade liability" by "omitting any screws, bolts or rivets that hold the assembled invention together"; even if a patent claimed trivial commodity fasteners as an element of the invention, it is very unlikely it would claim each fastener as a separate element. *Id.* at 28 n.7. Indeed, patent holders have a strong incentive not to include trivial commodity components in their claims, since doing so makes avoiding infringement easier for competitors. See, *e.g.*, *PC Connector Solutions LLC* v. *SmartDisk Corp.*, 406 F.3d 1359, 1364 (Fed. Cir. 2005) ("Literal infringement requires that the accused device embody every element of the claim.").

Promega's argument that the quantitative interpretation is arbitrary because it "would allow multiple suppliers to collude to supply all of the components of a patented invention for assembly abroad" is similarly fallacious. Br. 14. The statute imposes liability upon anyone who "supplies *or causes to be supplied* ... all or a substantial portion of the components." 35 U.S.C. § 271(f)(1). A supplier who "colluded" to supply all of the components from the U.S. would therefore be liable, even if he personally supplied "only one or two" components. Br. 40.

The interpretation advanced by Life Technologies and the United States would not lead to any "absurd"

or "arbitrary" results, and it is far more workable than Promega's vague and overbroad approach.

IV. THE DISTRICT COURT'S JUDGMENT AS A MATTER OF LAW UNDER SECTION 271(f)(1) SHOULD BE REINSTATED.

Finally, Promega takes issue with the United States' statement that this case "comes to the Court on the assumption[] that ... petitioners are entitled to judgment as a matter of law unless the domestic supply of *Taq* polymerase alone is sufficient to trigger liability under Section 271(f)(1)." U.S. Br. 27; see Br. 51. The United States is correct. Promega chose to take "an 'all or nothing' approach at trial," seeking damages for all worldwide sales of all kits, and making no attempt to demonstrate the origin of components or the damages suffered from specific kits. JA173-74. Following trial, Life Technologies moved for judgment as a matter of law, arguing that given Promega's trial strategy, there was insufficient evidence to support the verdict unless *all* of the foreign sales infringed under § 271(f)(1).[4] Promega chose not to respond to this argument, and the district court therefore correctly "concluded that plaintiff had conceded this issue." JA179-80; see Pet. App. 52a. Promega does not even acknowledge this waiver ruling, much less demonstrate that it was an abuse of

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[4] Promega contends that the Federal Circuit rejected this ruling, but the Federal Circuit's analysis concerned only kits made and sold in the United States that infringe under 35 U.S.C. § 271(a). Pet. App. 35a. The Federal Circuit reversed the district court's judgment as to the foreign sales based upon its erroneous interpretation of § 271(f)(1). If this Court reverses that erroneous interpretation, the district court's judgment as a matter of law as to § 271(f)(1) should be reinstated.

discretion. See *In re Kutrubis*, 550 F. App'x 306 (7th Cir. 2013).

Promega's assertion that Life Technologies "conceded that it could be held liable under § 271(f)(1) for the three Identifiler kits for which Life Technologies supplied at least two components from the United States" is likewise erroneous. Br. 9-10. Life Technologies did not concede that two components would constitute a "substantial portion" of the components of the Tautz patent. Rather, in light of Promega's "all or nothing" strategy, Life Technologies argued that it was entitled to judgment as a matter of law unless *all* kits infringed, and for most kits Promega presented no evidence as to any component except *Taq* polymerase. Pet. App. 57a ("assum[ing]" without reaching the issue "that two components are a substantial portion"); A6505 (pointing out that Promega had introduced evidence showing the geographic origin of the components for only "*one* kit," and did not show "which sales were relative to the one kit that they did offer evidence on"). In addition, Life Technologies' statements cannot be read as a concession concerning the Tautz patent at all, because the trial involved four additional patents with claimed components more limited to narrow sets of primers. Those patents were held invalid on appeal. Pet. App. 22a.

Life Technologies also did not concede that two or even "multiple" components of the Tautz patent were supplied from the U.S. for any kit. Br. 39 (emphasis omitted). Rather, Life Technologies stated that Promega "offered evidence" that "some primers are manufactured in Pleasanton, California" for certain kits, while specifically noting that "the majority of the primers" for those kits "are manufactured in the U.K." A2303; see JA155 (same); Pet. App. 51a (noting that Promega "adduced evidence" regarding two

components for some kits). The relevant "component[] of a patented invention," 35 U.S.C. § 271(f)(1), is a "vessel containing a *mixture* of primers constituting between 1 and 50 of said primer pairs" that is capable of "analyzing polymorphism in at least one locus in an DNA sample." JA127 (col. 16; ll. 43-46) (emphasis added). Because this "primer mix" was manufactured in the U.K., JA158, the claimed primer component was not supplied from the U.S. for any kit. See Pet. Br. 8-9.

Promega argues that the primer component requires only "a single primer pair, and Life Technologies admittedly supplied multiple primers from the United States." Br. 52 n.13. However, Promega did not offer evidence that any "primer *pair*" was supplied from the U.S., much less that the primers supplied were capable of "analyzing polymorphism in at least one locus in an DNA sample." JA127 (col. 16; ll. 43-44). The district court's judgment as a matter of law regarding § 271(f)(1) should be reinstated.

Finally, if this Court accepted Promega's argument that determining whether components constitute a "substantial portion" requires analyzing "*both* the relative importance and the quantity of the components supplied," the Federal Circuit's ruling must still be reversed. Br. 51. The Federal Circuit did not weigh the "relative importance" of the *Taq* polymerase against the fact that only one out of the five components had been supplied. Nor did the Federal Circuit weigh the vast majority of the factors that Promega now asserts are relevant. Br. 33. In fact, the evidence at trial makes clear that *Taq* polymerase was not "novel[] within the industry," *id.*; Promega points out that a well-known journal "named Taq polymerase the first 'Molecule of the Year'" *in 1989*—years before the patent was issued.

Br. 5; see JA120 (col. 1; ll. 8-12). Further, there was no evidence that *Taq* polymerase is valuable or was featured in materials promoting the invention. See https://www.neb.com/products/m0273-taq-dna-polymerase-with-standard-taq-buffer (*Taq* polymerase sold at six cents per unit). Even if this Court adopts an importance-based balancing test—which it should not—the judgment below must be reversed.

CONCLUSION

For the foregoing reasons and those set forth in the opening brief, this Court should reverse the decision of the Federal Circuit.

Respectfully submitted,

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IN THE

Supreme Court of the United States

LIFE TECHNOLOGIES CORPORATION; INVITROGEN IP HOLDINGS, INC.; APPLIED BIOSYSTEMS, LLC,

Petitioners,

v.

PROMEGA CORPORATION,

Respondent.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

SUPPLEMENTAL BRIEF FOR RESPONDENT PROMEGA CORPORATION

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CORPORATE DISCLOSURE STATEMENT

Respondent Promega Corporation has no parent corporation and no publicly held company owns 10% or more of its stock.

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INTRODUCTION

Respondent Promega Corporation respectfully submits this brief in response to the government's invitation brief.

Petitioners propose two rigid, nonstatutory rules that would restrict liability under 35 U.S.C. § 271(f)(1). The Federal Circuit properly rejected both. As the government correctly recognizes, Petitioners' effort to create a loophole for U.S. parties that export to their own divisions or employees to induce combination of a patented invention overseas is contrary to the statute's text and purpose, and unimportant to the resolution of this case or future cases.

The government is wrong, however, with respect to Petitioners' second effort to avoid liability. Nothing in § 271(f)(1)'s prohibition on the supply of "*a substantial portion* of the components of a patented invention" immunizes defendants who supply a single, but important, component of a patented invention. Here, the Federal Circuit reviewed the record and properly concluded that substantial evidence, including a case-specific concession, supported the jury's finding of substantiality. Petitioners' desired rule improperly seeks to convert a factual question regarding substantiality—encompassing both importance and quantity—into a strictly numerical legal test.

The government's endorsement of Petitioners' quantitative rule—besides being flawed as a matter of statutory interpretation—depends on a fundamental misunderstanding of the Federal Circuit's ruling. The government repeatedly argues (at 15, 17-19) that the decision below would lead to liability for *unwitting* domestic suppliers of a single staple component. But the

specific intent required for inducement liability, which the government effectively ignores, precludes such an outcome. A § 271(f)(1) plaintiff asserting inducement must establish both knowledge of the patent and specific intent to induce an infringing combination of components. Those requirements eliminate any risk that unwitting infringers will be held liable under § 271(f)(1) for innocent acts. Indeed, there is no evidence of the supposedly dramatic expansion in liability that Petitioners and the government fear; between them, they can identify only a single, non-final judicial order relying on the Federal Circuit's 2014 decision in this case.

Rather than granting this concededly interlocutory petition to address an unfounded hypothetical problem, this Court should deny review. In the unlikely event Petitioners' and the government's fears come to pass, this Court can address the second question presented in a case that has reached final judgment.

ARGUMENT

I. PETITIONERS' FIRST QUESTION PRESENTED DOES NOT MERIT REVIEW

The government correctly concludes that Petitioners' first question does not warrant certiorari. As the government explains, the Federal Circuit's decision was entirely correct. The object of inducement in § 271(f)(1) is "the combination," not a "person," and "induce" in that context naturally means "'to bring about, produce, or cause.'" U.S. Br. 8.[1] Accordingly, the stat-

[1] This plain reading does not give the word "induce" different meanings in § 271(f)(1) and § 271(b). This Court has never been presented with the question whether inducement under § 271(b) requires participation of a third party, nor is the question likely to arise: "[I]f a single entity within the United States carries out all

ute does not require the participation of a third party and readily encompasses situations in which "the domestic defendant supplies the components to its own foreign manufacturing facility." *Id.* 10.

The government also correctly notes that Petitioners' first question is unimportant—both in the context of this case and more generally. The government observes (at 14) that the question of third-party involvement arises in this case only because the courts below made a factual assumption that "appears to be inaccurate." Even if that incorrect assumption somehow persisted after further proceedings on remand, the issue is unlikely to arise in future cases because the vast majority of cases will involve a separate entity. U.S. Br. 12-13. Petitioners' first question accordingly does not deserve this Court's review.

II. PETITIONERS' SECOND QUESTION PRESENTED DOES NOT MERIT REVIEW

The government's discussion of the second question presented ignores many of Promega's arguments, misreads the statutory text, makes unfounded claims about future liability, and proposes an arbitrary rule that would lead to absurd results. In reality, the Federal Circuit's factbound decision rejecting a rigid requirement of multiple components properly interprets the statute, allows factfinders to take the importance of components into account, gives proper deference to the

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the steps necessary to make a patented invention, it can be held liable for *direct* infringement under 35 U.S.C. 271(a)." U.S. Br. 10. The fact that § 271(b) cases overwhelmingly involve situations of "persuad[ing] another," *Global-Tech Appliances, Inc.* v. *SEB S.A.*, 563 U.S. 754, 760 (2011), has led courts to speak in those terms, but that fact does not constrain the plain meaning of "induce" or create any conflict with § 271(f)(1).

jury verdict here, and includes safeguards and limits that prevent an undue expansion of liability. This Court should deny the petition in full.

1. The government's strictly numerical interpretation of "substantial portion" misreads the statutory text. The government concedes (at 16), as it must, that "'substantial' can have ... a qualitative meaning ('important')." *See also* Pet. 23 (same). But the government contends that the use of "all" preceding "substantial" imputes a purely quantitative meaning. U.S. Br. 16. The government has no response to Promega's demonstration that "all ... the components" necessarily includes important components, and that the use of an all-encompassing word covering both quantity and importance is consistent with the Federal Circuit's approach taking qualitative factors into account. Br. in Opp. 18. Nor does the government have any explanation for Congress's failure to employ expressly quantitative language such as "most" or "high percentage," as it has done elsewhere. *Compare* U.S. Br. 20, *with* 16 U.S.C. § 3871b(d)(4)(B) ("high percentage of producers"); 20 U.S.C. § 6303b(a)(1)(B)(ii) ("high percentage of schools"); 42 U.S.C. § 255(a)(2)(B) ("high percentage of the population").

The government's reliance (at 16) on the definition of "portion" is equally misplaced. A single component is indisputably "a part of any whole." *Random House Webster's Unabridged Dictionary* 1507 (2d ed. 1997). There is no reason that a component could not be a "substantial" part of the whole based on its importance, just as courts have held—in cases the government simply ignores—that a single important event, entry, or operation can be a "substantial portion" or "substantial part" of a whole. Br. in Opp. 18-19 (citing cases).

The government also misreads (at 17) "such components" in the statutory text to mean "multiple components ... supplied from the United States." The relevant text imposes liability on one who, among other things, "supplies ... all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part." 35 U.S.C. § 271(f)(1). As Promega previously explained (Br. in Opp. 20), this language refers to the components of the patented invention throughout. The first mention of "components" specifically says "components of a patented invention." The second mention of "such components" also logically refers to all components of the invention, not just what was exported. Specifically, the phrase "such components are uncombined in whole or in part" means that either all of *the invention's* components are uncombined ("in whole") or some of *the invention's* components are uncombined ("in part"). Were the government right that "such components" referred only to what was supplied from the United States, it would lead to the absurd result that a defendant could avoid liability simply by combining all domestically supplied components—so that they are no longer "uncombined in whole or in part"—before exporting them. In other words, the government's interpretation would eliminate liability for doing *more* domestically, thereby creating an enormous loophole.

The allegedly "parallel" phrasing of § 271(f)(2) (U.S. Br. 17) does not dictate such a counterintuitive result. Section 271(f)(2) is not a model of legislative drafting, and drawing sharp distinctions between the word "components" in § 271(f)(1) and "component" in § 271(f)(2) is hazardous in light of the Dictionary Act's background presumption that "words importing the plural include the singular" and "words importing the

singular include and apply to several persons, parties, or things." 1 U.S.C. § 1.

Even if "such components" in § 271(f)(1) referred to what was supplied from the United States, it would not support the government's rigid multiple-component rule. The use of the plural "components" to accommodate the stated possibility that "all" components will be supplied does not imply that the alternative "substantial portion" must also include multiple components.

The government relies on conceded "dicta" from a footnote in this Court's *Microsoft* decision in an effort to draw a distinction between § 271(f)(1) and § 271(f)(2). U.S. Br. 17 (citing *Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437, 454 n.16 (2007)). But the Federal Circuit correctly concluded that the footnote, as a whole, actually "tends to support the conclusion that § 271(f)(1) may apply when a single 'component' is involved." Like Petitioners, the government fails to address the entire footnote in *Microsoft* or the Federal Circuit's interpretation of that footnote.

Finally, the government is wrong (at 17) that § 271(f)(2) provides the sole avenue for imposing liability based on "export of a single component." Just as domestic sale of a single component may create liability for induced infringement under § 271(b) and contributory infringement under § 271(c), domestic supply of such a component for assembly abroad may establish liability under § 271(f)(1) and § 271(f)(2) where the additional requirements of both provisions, including the burden of proving inducement under § 271(f)(1), are met. Br. in Opp. 21. There is no reason to think Congress intended the interaction between the two provisions of § 271(f) to differ from the interaction between § 271(b) and § 271(c) in this respect.

2. The government incorrectly suggests (at 19-20) that the Federal Circuit's fact-based analysis of substantiality will be unpredictable and difficult to administer. But the Federal Circuit's ruling that there was substantial evidence to support the verdict is an unremarkable and routine application of deferential review to a case-specific factual question resolved by a jury. Patent cases, like many others, routinely turn on questions of fact, such as the question of infringement. Far from being difficult to administer or unpredictable, asking a fact-finder to decide factual questions based on record evidence is a hallmark of our judicial system. There is no justification for taking such questions away from the jury by imposing an artificial numerical requirement.

In fact, the rigid test proposed by the government would create far more problems than it solves. The government does not attempt to identify the numerical threshold that would satisfy its purely quantitative "high percentage" standard (U.S. Br. 20), and for good reason. In any scenario, the number would be arbitrary. To the extent the government proposes to simply replace "substantial portion" with "high percentage" in jury instructions without identifying a threshold, there is little reason to think that the government's proposal would be any more predictable or administrable than the Federal Circuit's interpretation.

The government's proposed numerical rule also fails to account for the relative importance of components. Under a numerical approach, an exporter shipping several trivial components could face liability under § 271(f)(1) based on the number of components supplied, but an exporter who ships one particularly important component (even in a two-component invention) in a manner specifically intended to induce the combination of the entire invention would never be lia-

ble under § 271(f)(1). Br. in Opp. 18. Like Petitioners, the government has no response to the anomalous outcomes its rule would produce.

3. The government raises (at 15) the specter of "domestic exporters" facing "liability for supplying a single staple article into the global stream of commerce." This speculative situation has never arisen in practice for an obvious reason: inducement under § 271(f)(1) requires *specific intent* to induce the infringing combination. *Liquid Dynamics Corp.* v. *Vaughan Co.*, 449 F.3d 1209, 1222 (Fed. Cir. 2006). A § 271(f)(1) plaintiff must therefore prove that the defendant had knowledge of the patent and intended to cause the claimed combination. That intent requirement provides a far more meaningful limit on liability than an ultimately arbitrary quantitative threshold.

The government's argument is, moreover, divorced from the reality of this case, which involved far more than unwitting export of a commodity component. Petitioners undisputedly knew of the patent-in-suit; this case only arose because Petitioners violated their limited license to the patent and engaged in a concerted effort to sell kits for use in unlicensed fields. Pet. App. 9a-10a; Br. in Opp. 3 n.2 (citing record). Petitioners' attempt to support their willful violation through export as part of a deliberate scheme to assemble the invention abroad is precisely the type of intentional conduct that § 271(f)(1) was intended to cover.

The government's speculative argument about expanded liability is also belied by the fact that Petitioners and the government can identify only a single district court order relying on the Federal Circuit's decision in this case since it was decided in 2014. U.S. Br. 21. There is no reason to believe that the Federal Cir-

cuit's decision will increase unwarranted litigation. Given § 271(f)(1)'s intent requirement and the Federal Circuit's narrow framing of its decision as a rejection of Petitioners' rigid *per se* rule, there is no indication that liability would readily attach beyond "the facts of this particular case" (Pet. App. 28a), which included a fact-specific concession by Petitioners' own witness (*Id.* 34a).

The government tries to downplay that concession by misreading the record. The government asserts (at 20) that Petitioners' expert identified "four of the five components of the invention" as "'main' or 'major,'" but the government mistakenly relies on testimony about "allelic ladders," which are *not* an element of the claim at issue here—claim 42 of the Tautz patent. A408; A6290-6291. Moreover, the government ignores other testimony identifying "the DNA polymerases" as one of just *two* components of claim 42 considered "critical." A6225. The trial record showed that Petitioners domestically supplied *both* of those critical components for their best-selling kits and domestically supplied the "critical" DNA polymerases (Taq) for *all* their kits. A6281-6285; A2303-2304.

It was the jury's responsibility to decide, based on evidence of both quantity and importance, whether Petitioners supplied a "substantial portion" of the components of the patented invention with the intent required by § 271(f)(1). The jury made that determination, and the evidence must be "viewed in the light most favorable to the verdict." *Global-Tech Appliances, Inc.* v. *SEB S.A.*, 563 U.S. 754, 770 (2011). It is only by ignoring the record on the relative importance of the components and adopting a rigid quantitative rule that Petitioners can hope to overcome the jury's verdict. The government's unsupported predictions provide no justification for stretching the law in that manner.

4. The government invokes the presumption against extraterritoriality, but it points to no foreign conduct actually regulated by the Federal Circuit's interpretation of § 271(f)(1). That failure is unsurprising because the only questions relevant to liability concern the defendant's domestic actions and intent. Imposing liability for exporting one important component from the United States does not implicate extraterritoriality any more than imposing liability for exporting two or three components.

The government's reliance on *Microsoft* is misplaced because the Court's concern about extraterritoriality in that case stemmed from the plaintiff's effort to establish liability not only for software code exported from the United States "but also [for] *duplicates made abroad.*" 550 U.S. at 455 (emphasis added); *see also id.* at 456 ("AT&T's reading ... 'converts a single act of supply from the United States into a springboard for liability each time a copy of the software is subsequently made [abroad].'"). *Microsoft* rejected a plaintiff's effort to expand § 271(f)(1) to encompass foreign conduct—specifically, "copying in foreign countries," *id.* at 456. But the actionable conduct here is clearly domestic, and there is a direct, one-to-one relationship between that conduct and every kit assembled abroad.

Finally, even if the presumption against extraterritoriality were implicated, the government incorrectly assumes (at 18-19) that the Federal Circuit's decision expands the reach of § 271(f)(1) compared to Petitioners' and the government's proposed rule. A strictly quantitative reading would exclude liability under § 271(f)(1) where a single key component is supplied, but would expand liability where a defendant exports multiple trivial components. The Federal Circuit's re-

jection of such a rigid rule simply dictates a different, not greater, application of U.S. law.

III. The Interlocutory Posture Of The Case Counsels Against Review

The government acknowledges (at 21-22) that this appeal "is interlocutory," a posture that would ordinarily "weigh against immediate review." *See Brotherhood of Locomotive Firemen & Enginemen* v. *Bangor & Aroostook R.R. Co.*, 389 U.S. 327, 328 (1967) (per curiam); *Mount Soledad Memorial Ass'n* v. *Trunk*, 132 S. Ct. 2535, 2536 (2012) (Alito, J., statement respecting denial of cert.). But the government discounts this fact based on the apparent belief (at 22) that the interlocutory posture matters only if the decision under review would have no effect on further proceedings. That narrow view ignores other important reasons to await a final judgment.

Petitioners have already conceded that their second question presented does not apply to their best-selling products, for which multiple components were supplied from the United States. Br. in Opp. 26; A6282-6285; A2303. Any new trial would also feature newly discovered evidence produced for the first time after trial that could affect Petitioners' multiple-component argument for other kits. Br. in Opp. 26. To the extent the Federal Circuit's interpretation of § 271(f)(1) remains essential to the final resolution of this case after those proceedings, this Court would still have the opportunity to review the question presented upon final judgment—with a better developed factual record. Denying review at this time would also allow the Court to see whether there is any substance to Petitioners' and the government's prediction regarding the impact of the decision below on other cases. In the

unlikely event any such impact arises, the Federal Circuit and this Court may address it then. There is no need for this Court to stretch to decide the issue prematurely.

CONCLUSION

The petition for a writ of certiorari should be denied.

Respectfully submitted.

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LIFE TECHNOLOGIES CORPORATION; INVITROGEN IP HOLDINGS, INC.; APPLIED BIOSYSTEMS, LLC,

Petitioners,

v.

PROMEGA CORPORATION,

Respondent.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

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INTRODUCTION

As the United States recommends, the "petition for a writ of certiorari should be granted." Br. for the United States as Amicus Curiae (Br.) 1. The United States agrees that the Federal Circuit's interpretation of 35 U.S.C. § 271(f)(1) is incorrect in a way that both "impinges on legitimate foreign sovereign interests," Br. 18 (alterations omitted), and threatens "far-reaching implications for U.S. export trade," *id.* at 19. This Court s review of the second question presented—concerning the interpretation of the phrase "all or a substantial portion of the components of a patented invention"—is therefore urgently needed.

Respectfully, petitioner submits that this Court should also review the first question presented—concerning whether a party can "actively induce" itself to engage in conduct abroad—even though the United States recommends declining review of that issue. This issue involves the meaning of the same statutory subsection the United States recommends considering, and reviewing both questions together would enable this Court to consider the statute as a whole in light of its overarching purpose when giving meaning to its terms. This more robust approach is particularly valuable here because, as this Court recognized in *Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437 (2007), section 271(f) is intended to be a narrow exception to the fundamental "presumption that United States law governs domestically but does not rule the world." *Id.* at 454–55. The combined effect of the Federal Circuit's erroneous holdings on both questions vastly increases the extraterritorial reach of the statute.

I. THE COURT SHOULD FOLLOW THE UNITED STATES' RECOMMENDATION TO GRANT REVIEW OF THE FEDERAL CIRCUIT'S HOLDING THAT A DEFENDANT MAY BE LIABLE UNDER SECTION 271(f)(1) FOR SUPPLYING A SINGLE COMMODITY COMPONENT.

As the United States recommends, "this Court should review the Federal Circuit's holding that a defendant may be held liable under Section 271(f)(1) for supplying a single component of a patented invention." Br. 15 (capitalization omitted). The United States' analysis confirms that the Federal Circuit's ruling is both erroneous and highly important, warranting this Court's review.

1. First, as the United States explains, the context of the phrase "substantial portion of the components" in § 271(f)(1) "makes clear that the provision uses the term 'substantial' in its quantitative sense," to refer to the *number* of components exported, rather than their qualitative importance. Br. 16. "[A] word is known by the company it keeps," *Yates* v. *United States*, 135 S. Ct. 1074, 1085 (2015), and the surrounding words in section 271(f)(1), including "all" and "portion," are plainly quantitative in nature. Br. 16–17. The Federal Circuit therefore erred in construing "substantial" to mean "'important' or 'essential,'" and ruling that it could encompass "a single important or essential component." Pet. App. 28a–29a.

As the United States also observes, further context from the companion provision of section 271(f)(1) supports petitioners' (and the United States') view that a "substantial portion of the components" of an invention cannot be just one component. Section 271(f)(2) "specifies the circumstances in which the

export of a single component from the United States can give rise to infringement liability," Br. 17: liability can be imposed for such conduct *only* if the component is "especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use." 35 U.S.C. 271(f)(2). The Federal Circuit's construction of section 271(f)(1) to nonetheless "permit liability based on the supply of a single staple article would give that provision the broad sweep that Congress purposely avoided in Section 271(f)(2)," Br. 18, exposing exporters of staple articles of commerce to potentially massive worldwide lost profits damages on sales of multi-component products. See also 35 U.S.C. § 271(c) (similarly limiting liability for contributory infringement to components that are "not a staple article or commodity of commerce suitable for substantial noninfringing use").

The contextual indications of meaning by themselves demonstrate the Federal Circuit's error. But, as the United States correctly notes, this Court's prior decisions provide still more reason to reject the Federal Circuit's interpretation. This Court has instructed lower courts to resolve "any doubt" about the interpretation of section 271(f)(1) by applying the presumption against extraterritoriality, and to "resist giving the language in which Congress cast § 271(f)(1) an expansive interpretation." *Microsoft*, 550 U.S. at 442. As the United States correctly recognizes, the Federal Circuit here did the opposite, giving the statute's terms an expansive reading. Br. 18. The result is precisely what the presumption against extraterritoriality is designed to prevent: liability for "conduct that plays a relatively minor role in the transaction, in derogation of foreign states' legitimate sovereign interest in permitting their citi-

zens to use imported staple articles to assemble and sell inventions that are not patented abroad." *Id.* at 19.

2. The United States also rightly observes the importance of correcting the Federal Circuit's misinterpretation of section 271(f)(1). Indeed, the expansion of the statute's extraterritorial reach itself raises important concerns; it infringes on the legitimate sovereign interests of foreign nations, and could create international friction, or even lead to a retaliatory broadening of the reach of foreign patent law over conduct occurring in the United States. See Bernard Chao, *Patent Imperialism*, 109 Nw. U. L. Rev. Online 77, 88 (2014).

The Federal Circuit's ruling also has, as the United States remarks, "far-reaching implications for U.S. export trade," because it "threaten[s] liability for the many U.S. exporters who supply single commodity components to foreign purchasers," potentially including damages for all lost profits on the entirety of the multi-component invention. Br. 19–20. This problem is particularly acute because the Federal Circuit interpreted "substantial" to mean nothing more than that the invention "would be inoperable" without the component at issue, Pet. App. 34a, which could cover "even minor constituent parts, like the spark plug of a car." Br. 19. This sweeping expansion of liability will operate as "one more incentive for U.S. companies who compete in foreign markets to move their manufacturing facilities abroad," resulting in a loss of U.S. manufacturing jobs that could not have been Congress' intention. Donald S. Chisum, *Normative and Empirical Territoriality in Intellectual Property: Lessons from Patent Law*, 37 Va. J. Int'l L. 603, 607 (1997); Br. Amicus Curiae of Agilent Technologies, Inc., at 16 ("[T]he Federal Circuit's message

to U.S. manufacturers, especially in industries in which patent liability is a prevalent concern, is to not use U.S.-made components unless absolutely necessary"). And the issue is likely to arise with increasing frequency, as companies seek to hold exporters liable for the supply of single components; indeed, the question has already recurred since the Federal Circuit's ruling. *Nomadix, Inc.* v. *Hospitality Core Servs. LLC*, No. CV 14-08256, 2015 WL 1525537, at *5 (C.D. Cal. Apr. 3, 2015) ("[T]he Federal Circuit has held that 'liability under § 271(f)(1) may attach for export of a single component.'").

Finally, the United States correctly notes that this case is a "suitable vehicle," because the "legal issue is cleanly presented" and there is no obstacle to this Court's review. Br. 21. The Federal Circuit cleanly held that "a party may be liable under § 271(f)(1) for supplying or causing to be supplied a single component," and reversed the district court's judgment on that ground. Pet. App. 28a. And the interlocutory posture of the case, which was remanded for resolution of damages issues, presents no reason to decline review now. Br. 22. In addition to the reasons provided by the United States, the interlocutory posture is unproblematic because, had the Federal Circuit correctly interpreted section 271(f)(1) in line with the trial court's ruling, the appropriate disposition would have been *affirmance* of the judgment in petitioners' favor that the district court had entered on the non-U.S. sales. Pet. App. 49a–65a. Thus, this Court's review could render the remand proceedings (which have been stayed) largely unnecessary. Reply 11.

This Court should grant review of the second question presented, as the United States recommends.

II. THE COURT SHOULD ALSO REVIEW THE QUESTION WHETHER THE FEDERAL CIRCUIT ERRED IN HOLDING THAT A SINGLE ENTITY CAN "ACTIVELY INDUCE" ITSELF TO ENGAGE IN CONDUCT UNDER SECTION 271(f)(1).

The United States recommends that review be limited to the question discussed above, but granting review of both questions presented in the petition would not increase the resources required for this Court's review, and would enable the Court to address more comprehensively the proper interpretation of the statute, and the problems created by the Federal Circuit's expansion of its extraterritorial application.

1. Both questions presented involve the interpretation of the same subsection of the same statute, 35 U.S.C. § 271(f)(1), and both implicate the presumption against extraterritoriality that applies to its interpretation. Granting review of both questions will thus ensure that the Court interprets the statute holistically rather than piecemeal. And review of both questions will also provide the best opportunity to consider the Congressional purpose of section 271(f)(1), how the provision was intended to operate within the broader context of the Patent Act, and the extent to which the provision "clearly" expresses "'the affirmative intention of the Congress' . . . to give a statute extraterritorial effect." *Morrision* v. *Nat'l Austl. Bank Ltd.*, 561 U.S. 247, 255 (2010). Thus, the two questions presented are best evaluated in tandem.

For instance, both questions require an evaluation of Congress' intent to close the "loophole" identified in *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518 (1972). As the United States notes, the classic

Deepsouth situation involves an attempt to "circumvent[ ] U.S. patent law," Br. 19, by manufacturing all components of a patented invention in the U.S. and then shipping them to third-party foreign customers to combine, thus avoiding patent protection for what would otherwise be a clear U.S. sale of a U.S.-manufactured product to a foreign customer. *Deepsouth*, 406 U.S. at 523–26. The case of a multinational company that supposedly "induces itself" to infringe raises a different and potentially countervailing set of concerns that there is no reason to believe Congress has considered and weighed. When a domestic company supplies all components to a foreign customer, there is a "U.S. sale" that is being disguised as foreign. But when a multinational company sources components internationally, including from the U.S., and establishes manufacturing facilities and sales operations abroad from which it both makes and ships products to countries beyond U.S. borders, there is no "U.S. sale" involved at all; the situation involved in *Deepsouth* is simply not present.

Whether U.S. law ought to reach such foreign sales involves sensitive issues of foreign trading relations and could invite retaliatory application of foreign law to corresponding U.S.-based sales. That is why this Court has emphasized that the presumption against extraterritoriality should produce narrow interpretations of 271(f), not expansive ones. Any "alteration should be made after focused legislative consideration, and not by the Judiciary forecasting Congress' likely disposition." *Microsoft*, 550 U.S. at 459.

Respectfully, the United States is incorrect when it asserts that this issue does not implicate the presumption against extraterritoriality. According to the United States, "construing Section 271(f)(1) to reach cases where the domestic supplier and foreign manu-

facturer are the same legal entity does not expand the provision's reach in a manner that implicates the presumption," because "the nexus between the prohibited course of conduct and the United States is closer" than when two separate entities are involved. Br. 11 (emphasis omitted). But there is no doubt that the Federal Circuit's interpretation of "actively induce" is expansive; even the United States agrees that the Federal Circuit has understood the term in a broader sense than it is used in § 271(b), from which it was drawn. *Id.* at 10–11. And as the United States' brief elsewhere explains, an expansive interpretation of section 271(f)(1) implicates the presumption because "it imposes liability for domestic conduct (shipping components from the United States) that induces particular foreign conduct (the manufacture in a foreign country of an invention that is patented in the United States)," and such liability "will affect the foreign conduct of the recipients of the components." *Id.* at 18. Expanding the reach of § 271(f) implicates the extraterritorial application of U.S. patent law no matter what words are read expansively.

Indeed, the concern about intrusion into foreign markets of U.S. patent regulation is particularly acute when a single, multi-national corporation sources components for its products across the world, including from the U.S., then compiles and assembles the products in overseas facilities it has established and sells them to foreign customers from those overseas facilities. Such sales have highly attenuated ties to the United States. The Federal Circuit thus erred in refusing to apply the presumption against extraterritoriality. Pet. App. 27a n.10.

The United States brushes aside the fact that the phrase "actively induce" was drawn from a statute that plainly does not cover conduct of one entity caus-

ing itself to do something. The United States argues that § 271(b) is "premised on the existence of another party that is liable for direct infringement" under section 271(a). Br. 10. It then ignores the strong presumption that "identical words and phrases within the same statute should normally be given the same meaning." *Powerex Corp.* v. *Reliant Energy Servs., Inc.*, 551 U.S. 224, 232 (2007). That presumption has "special force here," because "the term 'actively induce' in § 271(f)(1) was expressly 'drawn from existing subsection 271(b).'" Pet. App. 41a (Prost, C.J., dissenting) (quoting 130 Cong. Rec. 28,069). There is no reason to believe that Congress intended the same language in the two subsections to have such starkly different meanings.

The fact that § 271(f)(1) talks of inducing "the combination," rather than inducing "infringement" as in § 271(b), is no reason to understand the phrase "actively induce" differently. See Br. 8. In both provisions, what matters is that some action is being induced. The United States concedes that that phrase would require inducing another "if the object of the verb 'induce' were a word like 'person.'" *Id.* But § 271(b) does not make the object of inducement some person; it too makes the object "a result," *id.*, specifically "infringement." The point is that in *both* provisions Congress reasonably expected that the inducer would be inducing a result achieved by another person. As this Court has previously observed, "actively induce" in section 271(b) means "to lead on; to influence; to prevail on; to move by persuasion or influence." *Global-Tech Appliances, Inc.* v. *SEB S.A.*, 131 S. Ct. 2060, 2065 (2011). The object of inducement is always some other person, no matter what result the inducer intends that person to produce.

2. Furthermore, the first question presented is also highly important. The United States argues that its importance is limited because "[m]ultinational corporations generally act through locally incorporated subsidiaries or affiliates rather than as single legal entities," and the issue will therefore not frequently arise. Br. 12. But it has already arisen in other cases, and will continue to do so. Reply 6. While there is no way to know exactly how many companies will be affected, it is clear that some will be erroneously held liable for violating the statute under the Federal Circuit's misinterpretation.

Further, even if most cases will involve legally distinct entities, the Federal Circuit's erroneous holding that "induce" means "cause" has broader ramifications. For instance, this interpretation could change or even eliminate the intent element of section 271(f)(1). This Court inferred that section 271(b) contains an intent element from its holding that "induce" means "move by persuasion"; if "induce" in section 271(f) instead means "cause," it is unclear whether that subsection requires proof of intent. *Global-Tech*, 131 S. Ct. at 2065 ("Although the text of § 271(b) makes no mention of intent, we infer that at least some intent is required. The term 'induce' means '[t]o lead on; to influence; to prevail on; to move by persuasion or influence' . . . . When a person actively induces another to take some action, the inducer obviously knows the action that he or she wishes to bring about."). In addition, the Federal Circuit's ruling will significantly reduce plaintiffs' burden of proof, allowing them to seek damages for *worldwide* sales with no showing of which legal entities were involved in which transactions. The issue is important, and this Court's review is needed.

3. Finally, there are no vehicle issues. The United States' concern that the Court may not be able to resolve the meaning of "a substantial portion of the components" if it grants both questions presented is misplaced. Br. 15. The district court entered judgment as a matter of law on *both* grounds independently. Pet. App. 51a–64a. The Federal Circuit therefore had to reverse on both issues to vacate the district court's judgment in petitioner's favor. *Id.* at 23a. In reviewing the Federal Circuit's ruling, it would be a matter for this Court's discretion which issue to review first. See *id.* at 51a (considering the "substantial portion" issue first). If this Court disagreed with the Federal Circuit's interpretation on either ground, then the Federal Circuit's ruling would be reversed, and the trial court's judgment in petitioner's favor on non-U.S. sales should be affirmed. In short, there is no bar to this Court taking *both* questions presented, but considering first the question that the United States believes is of greater importance. Indeed, there would be no obstacle to this Court's resolving both questions presented if it should choose to do so. 13B Wright & Miller, *Federal Practice and Procedure* § 3533 n.21 (3d ed. 2016) ("Courts often decide multiple, independently sufficient grounds in the same case.").

Only this Court can correct the Federal Circuit's misinterpretation of 35 U.S.C. § 271(f)(1), and rein in its creation of sweeping and unpredictable liability for component manufacturers nationwide. Both questions presented should be granted.

CONCLUSION

For these reasons and those stated in the petition, both questions presented in the petition for a writ of certiorari should be granted.

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v.

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ON WRIT OF CERTIORARI
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BRIEF FOR THE UNITED STATES AS AMICUS CURIAE SUPPORTING PETITIONERS

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QUESTION PRESENTED

Section 271(f)(1) of the Patent Act of 1952 prohibits the "suppl[y] * * * from the United States [of] all or a substantial portion of the components of a patented invention" for combination abroad. 35 U.S.C. 271(f)(1). An adjacent provision, Section 271(f)(2), prohibits the "suppl[y] * * * from the United States [of] any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use." 35 U.S.C. 271(f)(2). The question presented is as follows:

Whether a supplier can be held liable under Section 271(f)(1) for providing "all or a substantial portion of the components of a patented invention" when the supplier ships for combination abroad a single, commodity component of a multi-component invention.

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In the Supreme Court of the United States

No. 14-1538

LIFE TECHNOLOGIES CORPORATION, ET AL.,
PETITIONERS

v.

PROMEGA CORPORATION

ON WRIT OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

BRIEF FOR THE UNITED STATES AS AMICUS CURIAE SUPPORTING PETITIONERS

INTEREST OF THE UNITED STATES

This case presents the question whether U.S. patent law restricts U.S. exporters from sending a single, commodity article overseas when the recipient uses that article abroad to assemble an invention that is covered by a U.S. patent. The United States Patent and Trademark Office is responsible for granting and issuing patents and advising the President on issues of patent policy. 35 U.S.C. 2(a)(1) and (b)(8). The application of U.S. patent law to the participation of U.S. exporters in foreign markets also raises issues concerning the competitiveness of American companies abroad and the respective roles of the United States' and other nations' patent laws, issues of concern to the Department of Commerce. The United States therefore has a substantial interest in the Court's resolu-

tion of the question presented here. At the invitation of the Court, the United States filed a brief as amicus curiae at the petition stage of this case.

STATEMENT

1. a. In general, whoever without authority makes, uses, or sells a patented invention "within the United States" is liable for patent infringement. 35 U.S.C. 271(a). In *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518 (1972) (*Deepsouth*), this Court held that a company did not violate Section 271(a) when it manufactured all of the component parts of a patented machine in the United States but shipped those parts overseas for final assembly abroad rather than assembling the parts itself. *Id.* at 523-524. This Court explained that "it is not an infringement [under Section 271(a)] to make or use a patented product outside of the United States," *id.* at 527, and that the invention was not made until its components were combined abroad, *id.* at 528-529. In reaching that conclusion, the Court relied in part on the presumption that Congress does not intend to regulate extraterritorially absent "a clear * * * indication of intent" to do so. *Id.* at 532; see *id.* at 531. This Court found no such indication in Section 271(a). *Ibid.*

b. Congress responded to *Deepsouth* by enacting 35 U.S.C. 271(f). Section 271(f) consists of two paragraphs. Paragraph (1) provides:

> Whoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe

> the patent if such combination occurred within the United States, shall be liable as an infringer.

35 U.S.C. 271(f)(1). Paragraph (2) provides:

> Whoever without authority supplies or causes to be supplied in or from the United States any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

35 U.S.C. 271(f)(2).

c. This Court first interpreted Section 271(f) in *Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437 (2007). The defendant in that case shipped a master version of computer software abroad, where customers made copies and installed the copies on computers. *Id.* at 441. The plaintiff owned a patent that would have been infringed by the installation of the software on a computer in the United States. *Id.* at 441-442. This Court held that the defendant was not liable under Section 271(f) because it had not supplied a component of the invention "from the United States." *Id.* at 452-454. The Court explained that the master software supplied from the United States was not a "component" within the meaning of Section 271(f) because it was not directly installed on the computers, and that

the copies that were installed were made abroad. *Id.* at 449-452.

This Court found that "[a]ny doubt" about whether Microsoft's conduct fell within Section 271(f)(1) "would be resolved by the presumption against extraterritoriality." *Microsoft*, 550 U.S. at 454. The Court explained that, even when a particular federal law is clearly intended to address foreign conduct, the presumption "remains instructive in determining the *extent* of the statutory exception." *Id.* at 456. The Court found no indication that Congress intended domestic actors to be liable for simply supplying "information, instructions, or other materials needed to make copies abroad." *Id.* at 458.

2. a. Respondent was the exclusive licensee of a U.S. patent claiming a kit for copying short repeated sequences of DNA. Pet. App. 2a, 5a.[1] The kit copies certain DNA sequences in order to enable analysts to determine whether a DNA sample came from a particular individual. *Id.* at 3a-5a.

The human genome repeats short sequences of nucleotides, the building blocks of DNA, in many places. Pet. App. 2a-3a. "For example, the DNA sequence ATT (adenine-thymine-thymine) may be repeated ten times in a row in a particular location." *Ibid.* The number of repetitions at a given location "varies highly from person to person." *Id.* at 3a. "For example, one individual's DNA may have eleven ATT repeats" at a particular location, "while another individual may

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[1] Initially, five patents were at issue. The Federal Circuit held that four of the patents were invalid. Pet. App. 22a. The remaining patent has expired, Br. in Opp. 3, but a patentee or exclusive licensee may seek damages for infringement during the patent's term and within the six years preceding the suit. 35 U.S.C. 286.

have fourteen" at the same location. *Ibid.* These variations, when compared across many such locations, allow analysts to determine the likelihood that a DNA sample came from a given person. *Ibid.*

To perform this kind of analysis, the relevant locations in the DNA sample must be copied many times. The testing kits at issue here perform this process of "amplification." Pet. App. 3a. The kits are made up of at least five components: (1) a mix of primers, which mark the start and finish of the locations in the sample DNA to be copied; (2) a reaction mix, which contains the nucleotide building blocks that will produce the copied DNA; (3) a buffer solution, which provides the background biochemical conditions necessary for copying; (4) an enzyme, generally *Taq* polymerase, that catalyzes the reaction that actually assembles the nucleotides into copies of the marked locations; and (5) control DNA to verify the accuracy of the copies. *Id.* at 8a.

Respondent granted petitioners a license to make and sell the patented kit for activities relating to legal proceedings, but not for other uses. Pet. App. 9a. After petitioners manufactured and sold the kits for unlicensed purposes, such as clinical diagnostics, respondent filed this action for patent infringement, seeking damages for both domestic and foreign sales of infringing kits. *Id.* at 44a-45a.

As relevant here, respondent alleged that petitioners' worldwide kit sales constituted infringement under Section 271(f)(1) because petitioners had supplied one component—the *Taq* polymerase—from the United States to petitioners' manufacturing facility in the United Kingdom, which manufactured or otherwise obtained the remaining four components and assembled

the patented kits. Pet. App. 34a & n.15. Respondent did not allege infringement under Section 271(f)(2) because it is undisputed that the *Taq* polymerase is "a staple article or commodity of commerce suitable for substantial noninfringing use." *Id.* at 30a n.14 (quoting 35 U.S.C. 271(f)(2)). After a trial, the jury returned a verdict in favor of respondent and awarded more than $50 million in damages, including damages for petitioners' total domestic and foreign sales. *Id.* at 11a.

b. Petitioners moved for judgment as a matter of law, asserting that Section 271(f)(1) did not apply to their conduct, and that it was therefore improper to award damages for kits sold outside the United States. See Pet. App. 11a. As relevant here, petitioners argued that they had not supplied "all or a substantial portion of the components" of the kits from the United States because they had shipped only a single component from this country. *Id.* at 51a. The district court agreed and granted judgment as a matter of law. The court held that Section 271(f)(1)'s reference to "all or a substantial portion" of an invention's components requires that multiple components be supplied from the United States. *Id.* at 54a-57a.[2]

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[2] Petitioners also argued that the evidence had not shown that the domestic shipper and the foreign recipient in this case were separate legal entities. Petitioners argued that respondent had therefore failed to prove that any petitioner had "actively induce[d] the combination" of the invention's components, 35 U.S.C. 271(f)(1), because (in petitioners' view) a single legal entity cannot induce itself to combine the components of an invention. Pet. App. 59a. The district court agreed with petitioners and granted judgment as a matter of law on that independent ground. *Id.* at 63a. The court of appeals reversed, *id.* at 24a, and this Court did not grant review on that question.

3. The court of appeals reversed and remanded in relevant part. Pet. App. 1a-38a. The court held that a single, commodity component can be a "substantial portion of the components of a patented invention" if that component is a sufficiently important part of the invention. *Id.* at 28a-35a. In the court's view, Section 271(f)(1) uses the term "substantial" in a qualitative sense, to mean "'important' or 'essential.'" *Id.* at 28a (citations omitted).

The court of appeals held that the record adequately supported the jury's conclusion that *Taq* polymerase itself "is a 'substantial portion' of the components" of respondent's patented kits. Pet. App. 33a. The court observed that *Taq* polymerase catalyzes the reaction that results in copying of the specified strands of DNA. *Id.* at 33a-34a. The court concluded that "[w]ithout *Taq* polymerase, the genetic testing kit recited in the [relevant] patent would be inoperable because no [copying] could occur." *Id.* at 34a. The court also observed that petitioners' "own witness admitted that the *Taq* polymerase is one of the 'main' and 'major' components of the accused kits." *Ibid.* (citation omitted).

The court of appeals reinstated the jury's verdict that petitioners were liable for infringement under Section 271(f)(1). Pet. App. 37a. Because the court had held that four of the five patents at issue were invalid, see note 1, *supra*, the court vacated the jury's damages award and remanded for determination of "damages due to [petitioners'] infringement of" the remaining patent. Pet. App. 38a.[3]

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[3] Chief Judge Prost dissented from the majority's active-inducement holding. Pet. App. 39a-43a. She did not reach "the alternative argument" that petitioners were not liable because

SUMMARY OF THE ARGUMENT

The question presented in this case concerns the application of U.S. patent law to kits that were covered by a U.S. patent but were manufactured and sold abroad. The court of appeals held that petitioners could be held liable under 35 U.S.C. 271(f)(1) for supplying a single, commodity component of those kits from this country. That holding was erroneous.

Section 271(f)(1) applies only to the domestic supply of "all or a substantial portion of the components of a patented invention." 35 U.S.C. 271(f)(1). In the court of appeals' view, a reasonable jury could find that *Taq* polymerase was "a substantial portion of the components of" respondent's patented invention because it "is one of the 'main' and 'major' components of the accused kits." Pet. App. 34a. Undoubtedly there are many contexts in which a single important component could reasonably be described as a "substantial portion" of a larger whole. The statutory scheme at issue here, however, contains several indications that Section 271(f)(1) does not cover the supply of a single component, and that the phrase "all or a substantial portion of the components" means all or something close to all of the components, rather than just one. The series of events that led to Section 271(f)(1)'s enactment, and the presumption against extraterritorial application of U.S. patent law, reinforce that conclusion.

A. A single important component might naturally be described as a "substantial portion *of an invention*." But Congress used a different phrase, and it would be unusual to describe one component as a

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they had supplied only a single component from the United States. *Id.* at 39a n.1.

"substantial portion *of the components* of a patented invention." 35 U.S.C. 271(f)(1) (emphasis added). That phrasing indicates that the provision's applicability should turn on a comparison between the number of components supplied and the total number of components, rather than on an assessment of the importance of an individual component to the invention as a whole.

B. The interplay between Section 271(f)'s two paragraphs reinforces that conclusion. In paragraph (2), Congress specifically addressed the circumstances under which supply of a single component will give rise to infringement liability. Congress protected American exporters against potentially sweeping liability by making that provision applicable only when the component supplied from the United States is "especially made or especially adapted for use in the [patented] invention and not a staple article or commodity of commerce." 35 U.S.C. 271(f)(2). That carefully crafted limit on liability would be substantially undermined if the domestic supplier of a single "staple article or commodity" could be held liable under paragraph (1).

If Congress had intended to create an alternative basis for liability in single-component cases, by providing that supply from the United States of a "main" or "major" component is infringing even if that component is a staple article, paragraph (2) would have been the natural place to put that prohibition. Paragraph (1), by contrast, defines the circumstances under which supply of multiple components is prohibited even when none of those components is especially created for use in the patented invention. The contrast between paragraph (1)'s repeated uses of the plural "components," and paragraph (2)'s repeated uses of the singular "component," reinforces the under-

standing that the two paragraphs serve those distinct purposes.

C. Congress enacted Section 271(f)(1) in response to this Court's decision in *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518 (1972), which involved the domestic supply of all of the components of a patented invention for ready assembly abroad. Congress viewed that conduct as tantamount to manufacturing the completed invention in the United States and then exporting it, and Congress enacted Section 271(f)(1) to prohibit that kind of evasion. If Congress had limited Section 271(f)(1) to the supply of *all* the components of a patented invention, however, the provision would not have achieved its anti-circumvention purpose, because a domestic supplier could simply supply from the United States all the components except one. The phrase "all or a substantial portion of the components" suggests a focus on conduct that closely resembles the evasive conduct in *Deepsouth* and can reasonably be viewed as the functional equivalent of illicitly manufacturing the patented invention in the United States for export. By contrast, when a finished product is manufactured and sold abroad, and every component but one is supplied from abroad, the domestic supply of that one component bears little resemblance to effectively manufacturing the invention in the United States—the *Deepsouth* paradigm that Congress was trying to address.

Focusing on the number of components supplied from the United States is also a more viable and administrable approach than the court of appeals' qualitative test, which is unduly expansive and unpredictable. The court suggested that a component may be sufficiently important if the invention "would be inop-

erable" without it. Pet. App. 34a. But the omission of even relatively trivial components will often render an invention inoperable. The court also suggested that a component is sufficiently important if it is a "main" or "major" component. *Ibid.* But neither the court nor respondent has articulated a workable definition of those terms, and the court's opinion suggests that three of the five identified components here would qualify. Under that approach, each of three separate companies could potentially be held liable under Section 271(f)(1) for supplying "a substantial portion of the components" from the United States.

D. The presumption against extraterritorial application of U.S. law requires that, to the extent Section 271(f)(1) is ambiguous, it should be construed in a way that minimizes its impact on foreign conduct. See *Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437, 456 (2007). Under the court of appeals' approach, the domestic supplier of a single, commodity component of a patented invention can be held liable for infringement under U.S. law even though the rest of the relevant conduct—the supply of every other component, the assembly into the finished product, and the sale of the finished product—occurs abroad and would ordinarily be regulated under foreign law. At the very least, Congress has not clearly mandated that interpretation, and it should accordingly be rejected.

ARGUMENT

When a product is manufactured abroad, and all but one of its components are supplied from abroad, the supplier of the lone domestically-supplied component is not liable under Section 271(f)(1). Section 271(f)(1) prohibits supplying from the United States "all or a substantial portion of the components of a

patented invention," in a manner that "actively induce[s] the combination of such components outside of the United States." 35 U.S.C. 271(f)(1). That provision is best understood to reach a person who supplies all or something close to all of the components of an invention from the United States, and thus to prohibit the kind of evasion that was involved in *Deepsouth Packing Co.* v. *Laitram Corp.*, 406 U.S. 518 (1972). The court of appeals' more expansive interpretation is inconsistent with the statutory text and context, would impose liability for conduct that bears little resemblance to the circumvention involved in *Deepsouth*, and would render Section 271(f)(1) applicable to conduct that is foreign in every respect except one.

A. The Statutory Text Indicates That Section 271(f)(1) Does Not Reach The Supply Of A Single Component

The term "substantial portion," taken in isolation, could refer to an *important* portion, a *large* portion, or to both. The word "substantial" is derived from the word "substance," and modern dictionaries include definitions that refer both to qualitative importance and to quantitatively large size. See Michael J. Malaguti, *Substantial Confusion: The Use and Misuse of the Word "Substantial" in the Legal Profession*, 52 N.H. Bar J. 6, 8 (2011) (discussing this ambiguity and describing "the definition that focuses on size" as "the 'modern' (and most prevalent) definition").[4] Given the

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[4] See *Black's Law Dictionary* 1656 (10th ed. 2014) ("3. Important, essential, and material; of real worth and importance"; or "6. Considerable in amount or value; large in volume or number"); 17 *The Oxford English Dictionary* 67 (2d ed. 1989) ("5. a. That is, constitutes, or involves an essential part, point, or feature; essential, material"; or "9. Of ample or considerable amount, quantity, or dimensions. More recently also in a somewhat weakened sense,

inherent ambiguity of "substantial," the term's meaning within any particular provision must be assessed by reference to the context in which it appears and the purpose of the relevant law. Several contextual and purposive clues indicate that Congress did not intend Section 271(f)(1) to reach the supply of a single component, even where that component is important or indispensable to the invention's functioning.

1. It is a fundamental principle of statutory interpretation that "a word is known by the company it keeps." *McDonnell* v. *United States*, 136 S. Ct. 2355, 2368 (2016) (quoting *Jarecki* v. *G. D. Searle & Co.*, 367 U.S. 303, 307 (1961)). Section 271(f)(1) imposes liability for supplying "*all* or a substantial *portion* of the components of a patented invention." 35 U.S.C. 271(f)(1) (emphases added). Both "all" and "portion" convey a quantitative meaning. When used with a plural noun (here, "components"), "all" means "[t]he entire number of; the individual components of, without exception." 1 *The Oxford English Dictionary* 324 (2d ed. 1989). The term "portion" likewise refers to a quantity, of something less than all. See *Freeman* v. *Quicken Loans, Inc.*, 132 S. Ct. 2034, 2041-2042 & n.6 (2012) (collecting definitions).

If Congress had intended Section 271(f)(1) to turn on the qualitative importance of a particular compo-

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esp. 'fairly large'"); *Random House Webster's Unabridged Dictionary* 1897 (2d ed. 2001) ("1. of ample or considerable amount," or "8. important"); *Webster's New International Dictionary* 2514 (2d ed. 1958) ("3. That is of moment; important; essential; material" or "7. Considerable in amount, value, or the like; large; as, a *substantial* gain"); *Webster's Third New International Dictionary* 2280 (1993) ("important, essential"; or "considerable in amount, value, or worth"; "being that specified to a large degree or in the main") (capitalization omitted).

nent (or set of components) to the invention, it would have been far more natural to impose liability for supplying "all or a substantial portion *of a patented invention*" itself. That language would invite a comparison between the U.S.-supplied portion and the invention as a whole, asking whether the former is "important" or "essential." See 17 *The Oxford English Dictionary* 67. But Congress instead imposed liability for supplying "all or a substantial portion *of the components* of a patented invention." A "component" is "commonly defined as 'a constituent part,' 'element,' or 'ingredient.'" *Microsoft Corp.* v. *AT&T Corp.*, 550 U.S. 437, 449 n.11 (2007) (quoting *Webster's Third New International Dictionary* 466 (1981)). The phrasing of Section 271(f)(1) strongly suggests that what matters is the number of components supplied in relation to the total number that the invention contains, and whether the supplied portion is a large portion of the whole, not the relative importance of any individual component to the invention.

For example, a person might say that the chassis is a "substantial portion of a car." But nobody would say that the chassis alone is a "substantial portion of the parts of a car." A car consists of many parts, and one part (even if heavy, large, and critical to the car's operation) is not a substantial portion of them. Similarly, if a play has four acts and the fourth is the longest and has the climax of the story, one might say that the fourth is a "substantial portion of the show." But it would be odd to say that the fourth act itself constitutes "a substantial portion of the acts of the show." In federal law, a "tax return preparer" is defined as a person who prepares "all or a substantial portion of any return," which may include preparation of a "sin-

gle tax entry," depending on the relative "size and complexity" of that entry and the size of the understatement attributable to it. 26 C.F.R. 301.7701-15(a) and (b)(3)(i). But it would be odd to say that a person who prepares only a single tax entry, even if large and complex, prepares a "substantial portion *of the entries* in a return." Respondents' interpretation is no less strange.

2. In explaining its more expansive interpretation, the court of appeals stated that "[t]he dictionary definition of 'substantial' is 'important' or 'essential,'" and that "[n]othing in the ordinary meaning of 'portion' suggests that it necessarily requires a certain quantity." Pet. App. 28a (citations omitted). Those observations should have been the start rather than the end of the court's textual analysis, however, as the ordinary meaning of "substantial" also includes its quantitative definition. The court's approach also ignores the natural inference arising from a provision that refers to "*all or* a substantial portion of the components": Supplying one component is at the opposite end of the spectrum from supplying "all" of them.

The court of appeals' approach to determining the importance of a particular component exacerbates this problem. At one point in its opinion, the court suggested that Section 271(f)(1) may reach the supply of any component without which the invention "would be inoperable." Pet. App. 34a. But in practice, many inventions are rendered inoperable by the removal of even a relatively minor component, such as the spark plug of a car, a fuse in a radio, or the plug in the back of a computer. In this case, for example, eliminating any one of the five identified components of the pa-

tented invention would likely render the kits inoperable for reliably testing DNA.

If every component that is essential to an invention's operation is treated as a "substantial portion of the components," supply of a single component would not simply have the *potential* to trigger liability under Section 271(f)(1). Rather, supply of a single component would *routinely* have that effect. That approach would effectively negate both the "substantial portion" requirement of Section 271(f)(1), and the stringent limitations that Congress imposed in Section 271(f)(2), which specifically addresses the circumstances in which export of a single component can give rise to infringement liability. See pp. 17-22, *infra*. That approach in turn would have far-reaching implications for U.S. export trade.

The court of appeals' decision might alternatively be understood to prohibit the domestic supply of any "main" or "major" component of a patented invention. Pet. App. 34a (citation omitted). That approach is less expansive than one that turns on a particular component's impact on operability, but its application here indicates that it is similarly problematic. The court relied on the statement of petitioners' expert that *Taq* polymerase was a "main" component of respondent's patented invention, see *ibid.*, but the expert said the same thing about three of the five components that were identified during the proceedings below. See J.A. 160 ("[T]he main [components] are the primer mix, the reaction mix and the enzymes," and "[t]he enzyme would be the Taq").[5] If each of those three components is viewed as "a substantial portion of the

[5] The expert also identified "the Taq, reaction mix and then the allelic ladder" as its "major component[s]." J.A. 160.

components of [the] patented invention," and if each were supplied to the foreign manufacturer by a different U.S. company, all three U.S. companies could be held liable under Section 271(f)(1) for the overseas production of a single patented kit.

B. The Differences Between Section 271(f)'s Two Paragraphs Reinforce The Conclusion That Paragraph (1) Does Not Reach The Supply Of A Single Component

Section 271(f) contains two paragraphs, and a comparison between the two sheds further light on the proper understanding of Section 271(f)(1). Section 271(f)(2) provides that, in specified circumstances, a person who exports a single component of a patented invention from the United States will be liable for infringement. To preserve the distinct functions of the two paragraphs within the overall provision, Section 271(f)(1) should be understood to define the circumstances under which supply of multiple components from the United States can give rise to infringement liability, even if none of the exported components falls within Section 271(f)(2). Congress's consistent uses of the plural "components" in the first paragraph, and of the singular "component" in the second, reinforces that understanding.

1. Paragraph (2) specifically addresses the circumstances under which supply of a single component from the United States will give rise to infringement liability. It covers "any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use." 35 U.S.C. 271(f)(2). A person who supplies any such component, acting with the requisite intent, can be held liable for infringing the U.S. pa-

tent. *Ibid.* If Congress had intended also to ban the supply of any staple article that is a "main" or "major" component of a patented invention, or is essential for the invention to operate, paragraph (2) would have been the natural place to put that prohibition.

Under the court of appeals' interpretation of Section 271(f)(1), *both* paragraphs of Section 271(f) address (at least in part) the supply from the United States of single components. Yet as applied in cases like this one, paragraph (1) effectively negates Congress's careful exclusion from paragraph (2) of any "staple article or commodity of commerce suitable for substantial noninfringing use." 35 U.S.C. 271(f)(2). This is not a natural way to read a statute.

By contrast, if paragraph (1) is understood to require the supply of more than one component, the two paragraphs of Section 271(f) can serve distinct but complementary functions. Paragraph (2) defines the circumstances in which supply of a single component will give rise to liability. Paragraph (1) reflects Congress's determination that, even when no *individual* exported component is "especially made or especially adapted for use in the invention," a particular *set* of components taken together may be sufficiently close to the whole of the invention to warrant prohibition of its supply from the United States. Consistent with that understanding, this Court has observed in dicta that "the two paragraphs differ, among other things, on the quantity of components that must be 'supplie[d] . . . from the United States' for liability to attach." *Microsoft*, 550 U.S. at 454 n.16 (brackets in original).

2. Section 271(f)(1) prohibits the domestic supply of "all or a substantial portion of the *components* of a patented invention, where *such components* are un-

combined in whole or in part," to "actively induce the combination of *such components* outside of the United States." 35 U.S.C. 271(f)(1) (emphases added). Congress thus used the plural form "components" three times in Section 271(f)(1). The second of those uses is particularly significant. Congress's use of the plural term "such components" to describe what is exported from this country indicates that multiple components must be supplied from the United States in order to trigger the statutory ban.

The court of appeals believed (Pet. App. 29a), and respondent contends (Br. in Opp. 19-20), that the term "such components" in this provision refers to *all* of the components of the invention, not simply to those that are supplied from the United States. Paragraph (2), however, uses phrasing parallel to that of paragraph (1), prohibiting the supply of any "especially made" component "where such component is uncombined in whole or in part." 35 U.S.C. 271(f)(2). In paragraph (2), the only plausible referent for "such component" is the "especially made" component supplied from the United States. There is no sound reason to give the parallel term "such components" in paragraph (1) a starkly different meaning.

In rejecting this understanding of the phrase "such components," the court of appeals relied in part (Pet. App. 29a) on the fact that paragraph (1) ties liability to the "combination of *such components* outside of the United States *in a manner that would infringe the patent* if such combination occurred within the United States." 35 U.S.C. 271(f)(1) (emphases added). The court believed that, because combining fewer than all of the components domestically would not infringe a patent, the phrase "such components" must refer to

all of an invention's components, not simply to those supplied from the United States. See Pet. App. 29a. Paragraph (2) contains similar language, however, providing that an exporter can be held liable for supplying an "especially made" component only if the supplier "intend[s] that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States." 35 U.S.C. 271(f)(2). Because paragraph (2) is directed at supply of "any" singular "component," the provision clearly contemplates that "such component will be combined" with *other* (unspecified) components abroad to produce the patented invention. *Ibid.*[6]

Paragraph (1) should be construed in the same manner. The term "such components" (like the term "such component" in paragraph (2)) refers to what is supplied from the United States. And paragraph (1)'s reference to the "combination of such components

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[6] Respondent suggests that "such components" must refer to all of the components of a patented invention because Section 271(f)(1) specifies that liability attaches "where such components are uncombined in whole or in part." Br. in Opp. 20 (citation omitted). Otherwise, respondent asserts (*ibid.*), manufacturers could evade liability "simply by combining the U.S.-supplied components together into a single component before shipping it abroad for further assembly into the patented invention." For purposes of Section 271(f)(1), however, a set of components supplied from the United States in that manner would properly be described as "uncombined * * * in part," since it still must be combined with at least one other component to produce the patented invention. That reading is supported by Section 271(f)(2)'s allusion to a *single* component that is "uncombined in whole or in part," which clearly refers to the combination (or lack thereof) of that component with other components. A domestic supplier therefore could not circumvent Section 271(f)(1) in this manner.

* * * in a manner that would infringe the patent" encompasses (in cases where fewer than all of the components are supplied from the United States) the combining of the exported components with the remaining components of the invention.

3. Section 271(f)(1) imposes infringement liability only if the domestic supplier acts "in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States." 35 U.S.C. 271(f)(1). To "actively induce" such a combination, a supplier must intend to bring it about. Cf. *Global-Tech Appliances, Inc.* v. *SEB S.A.*, 563 U.S. 754, 759-766 (2011) (construing 35 U.S.C. 271(b)). Respondent suggests (Br. in Opp. 1-2, 24) that the intent element in Section 271(f)(1) adequately protects suppliers from untoward liability for exporting single components.

Section 271(f)(2), however, contains substantially the same intent element. To be liable under that provision, an exporter must "intend[]" that the component supplied from the United States "will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States." 35 U.S.C. 271(f)(2). Congress nevertheless limited Section 271(f)(2) to the supply from the United States of a component "that is especially made or especially adapted for use in the [patented] invention and not a staple article or commodity of commerce suitable for substantial noninfringing use." *Ibid.* Congress thus specifically declined to impose infringement liability under Section 271(f)(2) for exporting a single staple article, *even when* the supplier knows and intends that it will be used to

manufacture a patented invention abroad. Thus, notwithstanding Section 271(f)(1)'s intent element, application of that provision to the export of a single component would subvert a congressional policy choice that is reflected in Section 271(f)(2).

C. The Statutory Purpose And Practical Considerations Reinforce The Conclusion That Section 271(f)(1) Does Not Reach The Supply Of A Single Component

1. Congress enacted Section 271(f)(1) in response to this Court's decision in *Deepsouth*. The defendant in *Deepsouth* manufactured, within the United States, all of the components of a multiple-component invention that was subject to its competitor's U.S. patent. 406 U.S. at 523-524. It then exported those components, as a coordinated package, for ready combination abroad. See *id.* at 524 ("the whole [is] assemblable in less than one hour"). The Court held that this course of conduct did not infringe the U.S. patent because the invention was not made until the components were assembled abroad, where U.S. patent law does not apply. See *id.* at 525-529.

"Section 271(f) was a direct response to a gap in our patent law revealed by" *Deepsouth*. *Microsoft*, 550 U.S. at 457. Section 271(f)(1) prevents a domestic supplier from effectively making a patented invention in the United States and then exporting it, while avoiding infringement liability, by supplying the final product in disassembled form for assembly abroad. Section 271(f)(1) ensures that, "when components are supplied for assembly abroad to circumvent a patent, the situation will be treated the same as when the invention is 'made' or 'sold' in the United States." S. Rep. No. 663, 98th Cong., 2d Sess. 3 (1984).

If Congress had limited Section 271(f)(1) to the supply of "all the components" of an invention, however, the new anti-evasion rule would itself have been readily evaded. Under such a statute, a domestic supplier could have avoided liability by supplying all but one of the components to the foreign assembler. Congress's addition of the phrase "or a substantial portion" closed that potential loophole.

Section 271(f)(1) is thus properly understood in light of its purpose and history to cover, but be limited to, conduct that approximates the degree and kind of evasion that was involved in *Deepsouth*: Conduct that is tantamount to making the patented invention itself in the United States and then exporting it. By contrast, if Section 271(f)(1) is construed to reach the supply of any important component of an invention, it will outlaw conduct far afield from the circumvention that prompted Congress to act. While the export of all or something close to all of the components for assembly abroad can reasonably be viewed as the functional equivalent of manufacturing the patented invention in the United States for export, the domestic supply of a single staple article cannot reasonably be so regarded. Nothing in Section 271(f)(1)'s text or history suggests that Congress intended to reach so far beyond the type of conduct that prompted its enactment. When a product is made abroad and all of its components are supplied from abroad except a single, staple article of commerce is supplied from the United States, Congress left that predominately foreign conduct to be regulated by foreign law.

2. The court of appeals' interpretation of Section 271(f)(1) is also less workable and measured than the competing approaches.

a. The court of appeals suggested at one point in its opinion that any component without which a patented invention "would be inoperable" may constitute a "substantial portion" of the components of that invention. Pet. App. 34a. "That version of the argument has the virtue of resting on a general principle—but the vice of being implausible." *Bullard* v. *Blue Hills Bank*, 135 S. Ct. 1686, 1694 (2015). Indeed, it effectively reads "all or a substantial portion of the components" to mean something close to "any component."

The court of appeals also suggested that a single component qualifies as "all or a substantial portion of the components" if it is a "main" or "major" component. Pet. App. 34a (citation omitted). But the court did not articulate what makes a component "main" or "major," and its expansive application of those terms here—which would reach three of the five identified components of the patented kits—suggests that those terms are both vague and broad. Nor does any approach that turns on qualitative importance appear to be conceptually stable or administrable. Respondent did not identify a workable standard in its brief in opposition, stating that "[s]ubstantiality is a fact question that requires a case-specific analysis of what is being supplied from the United States and its relationship to the patented invention across multiple dimensions." Br. in Opp. 16. Without more meaningful guidance, domestic suppliers of staple components to foreign manufacturers cannot accurately assess their potential liability before exporting such goods. And it is unlikely that, in reaction to *Deepsouth*, Congress intended to mandate a freewheeling inquiry that would expose American exporters of staple articles of

commerce to potentially broad and unpredictable liability.

b. It is more workable and measured—and more faithful to the statutory text, context, and purpose—to ask whether a defendant has supplied all or something close to all of the components of a patented invention, not just one.

At the outset, for many of the same reasons that Section 271(f)(1) is limited to the supply of multiple components, it is also best read to be limited to the supply of all or something close to all of the total number of components. As set forth above, the phrase "all or a substantial portion of the components" refers to all or a large portion of the total number of components. Furthermore, that phrase is naturally read to refer to a larger proportion of the components than if Congress had omitted "all or" and had simply imposed liability for supplying a "substantial portion of the components." "All" here means 100% of the components, and the phrase "all or a substantial portion" in turn conveys that a "substantial portion" is closer to 100%. Cf. Daniel Kahneman, *Thinking, Fast and Slow* 119-120 (2011) ("Any number that you are asked to consider as a possible solution to an estimation problem will induce an anchoring effect.").

Section 271(f)(1)'s purpose and history also suggest not only that the supply of a single component is insufficient, see pp. 22-23, *supra*, but also that Section 271(f)(1) should be construed to reach situations that involve approximately the same degree and kind of evasion as the conduct at issue in *Deepsouth*—tantamount to manufacturing the invention in the United States for export—and therefore not to apply when the product is made abroad and the domestically-

supplied portion is not even close to the total number of components. And the presumption against extraterritoriality reinforces this interpretation, as it tugs against construing "all or a substantial portion" broadly, and in favor of a modest construction tailored to the *Deepsouth* paradigm. See pp. 28-31, *infra*. Section 271(f)(1) therefore is properly interpreted to reach the supply of all or something close to all of the total, a standard that is akin to, though less stringent than, "all or virtually all" or "all or nearly all."

The inquiry involves counting the components supplied from the United States and comparing that to the total number of components. In many cases it will be clear whether the U.S.-supplied portion of the invention's components is all or something close to all of the total. In some borderline cases, the determination whether the supplied portion is something close to all of the components will depend on the size of that portion, and whether the export of that portion is appropriately viewed as the functional equivalent of exporting the invention itself. Despite the existence of close cases, that test is workable, easy to understand, and faithful to Congress's anti-evasion purposes.

To be sure, it would be even clearer to supply a rigid numerical threshold for "substantial." But it is not textually plausible to adopt a bright-line cutoff (*e.g.*, 75% of the invention's components), and any such rigid threshold would invite evasion (as by the supply of 70% of the invention's components) of a statute that is designed to prevent evasion. Any viable interpretation of Section 271(f)(1) accordingly will present some line-drawing problems. But an approach that treated Section 271(f)(1) as applicable to a single "main" or "major" component would produce greater practical

difficulties, since the need for drawing lines would potentially arise in every single-component case. It would also be duplicative, as Congress has already supplied a clear and workable standard in Section 271(f)(2) for identifying situations where the supply of a single component is sufficiently culpable to warrant liability: If that component is "especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use." 35 U.S.C. 271(f)(2).

c. To apply Section 271(f), one must identify the invention's "components." In *Microsoft*, this Court explained that the term "component" is "commonly defined as 'a constituent part,' 'element,' or 'ingredient.'" 550 U.S. at 449 n.11 (citation omitted). The Court also noted that Section 271(f)(1) contemplates "'components' amenable to 'combination,'" *id.* at 449, and suggested that the provision does not reach items that are not "combinable," *id.* at 450. This case does not present any question concerning the proper approach for identifying "components," however, because it comes to the Court on the assumptions that *Taq* polymerase is a "component," that the kits are made from at least four additional components, and that petitioners are entitled to judgment as a matter of law unless the domestic supply of *Taq* polymerase alone is sufficient to trigger liability under Section 271(f)(1). Pet. App. 8a, 51a-52a.[7] For the reasons set

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[7] The starting point for identifying "components" is to examine the elements of the relevant patent claim to identify constituent parts that are capable of being combined into the final product, as the court of appeals did here when it identified five components from five claim elements. See Pet. App. 7a-8a. Parts that are included in the physical embodiment of an invention, but are not

forth above, Section 271(f)(1) does not apply when a product is manufactured abroad and all but one of the components are supplied from abroad.

D. The Presumption Against Extraterritoriality Resolves Any Lingering Ambiguity

The presumption against extraterritorial application of U.S. law resolves any remaining uncertainty as to whether Section 271(f)(1) imposes liability when a product is manufactured and sold abroad, and all but one of the components are supplied from abroad. Under that presumption, "courts should 'assume that legislators take account of the legitimate sovereign interests of other nations when they write American laws,'" as "[f]oreign conduct is generally the domain of foreign law." *Microsoft*, 550 U.S. at 455 (citations and brackets omitted).

The Court in *Microsoft* described Section 271(f)(1) as "an exception to the general rule that our patent law does not apply extraterritorially," in that it imposes liability for domestic conduct (shipping components from the United States) that induces particular foreign conduct (the manufacture in a foreign country of an invention that is patented in the United States). 550 U.S. at 442. The Court thus recognized that, on any plausible reading, Section 271(f)(1) will have *some* impact on foreign conduct because "Congress enacted

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covered by any element of the patent claim, thus do not qualify. A future Deepsouth thus could not evade liability by supplying the very same components, while omitting any screws, bolts, or rivets that hold the assembled invention together, and claiming that each screw or other fastener constitutes a distinct "component." Assuming that no element of the patent claim covers the screws, bolts, or rivets, they would be irrelevant to the infringement inquiry under Section 271(f)(1).

§ 271(f) specifically to extend the reach of United States patent law to cover certain activity abroad." *Id.* at 455. But the Court explained that, because the *scope* of liability under Section 271(f)(1) will affect the foreign conduct of the recipients of the components, the presumption against extraterritoriality "remains instructive in determining the *extent* of" the provision's coverage. *Id.* at 456; see *Smith* v. *United States*, 507 U.S. 197, 204 (1993).

If Section 271(f)(1) is construed to cover only those defendants who have supplied all or something close to all of a patented invention's components from the United States, the proscribed domestic conduct is tantamount to domestically manufacturing a patented invention for export, and liability under Section 271(f)(1) so construed is closely tied to circumvention of the primary protections in Section 271(a). Although application of Section 271(f)(1) to those suppliers will have a practical impact on the activities of foreign assemblers, Congress clearly anticipated and intended that extraterritorial effect. Except in those situations where the domestic entity supplies all or something close to all of an invention's components, or supplies a component "that is especially made or especially adapted for use in [a patented] invention," 35 U.S.C. 271(f)(2), foreign manufacturing and sales will be governed by the laws of the nations where those activities occur. That approach respects the principle that U.S. patent law does not apply outside the United States, see *Microsoft*, 550 U.S. at 454-455, and "helps the potentially conflicting laws of different nations work together in harmony—a harmony particularly needed in today's highly interdependent commercial

world," *F. Hoffmann-La Roche Ltd.* v. *Empagran S.A.*, 542 U.S. 155, 164-165 (2004).

Under the court of appeals' approach, by contrast, Section 271(f)(1) can apply even when every step but one within the process of manufacture, supply, and sale occurs abroad. That reading would impinge upon "legitimate [foreign] sovereign interests," *Microsoft*, 550 U.S. at 455, by preventing citizens of foreign countries from importing staple articles of commerce and combining them with components manufactured in their own countries. More broadly, it would undermine the efforts of foreign nations to strike an appropriate balance between allowing open competition and using patents to promote innovation.

Congress should not be deemed to have intended those consequences unless it has clearly expressed that intent. At the very least, Section 271(f)(1) does not clearly cover the supply from the United States of a single staple article, even when that article is an important component of an invention that is patented in the United States. That is a sufficient basis for finding Section 271(f)(1) to be inapplicable here.

CONCLUSION

The judgment of the court of appeals should be reversed.

Respectfully submitted.

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Petitioners,

v.

PROMEGA CORPORATION,

Respondent.

On Writ of Certiorari
to the United States Court of Appeals
for the Federal Circuit

BRIEF FOR *AMICUS CURIAE* AGILENT TECHNOLOGIES, INC. IN SUPPORT OF PETITIONERS

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INTEREST OF AMICUS CURIAE

Agilent Technologies, Inc. ("Agilent")[1] is a $4 billion publicly-traded U.S. company, incorporated in Delaware and headquartered in California, with global manufacturing, sales, revenue and workforce.[2] Originally part of Hewlett-Packard, it was spun off as a separate company in 1999.[3] It is a leader in developing products and services for life sciences, diagnostics and chemical testing industries.[4] Agilent's products and services help diagnose and research disease, assess petrochemical products, evaluate environmental contamination, detect impurities in materials used in electronics manufacturing, and ensure food safety.[5]

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[1] All parties have been given appropriate notice and consented to the filing of this brief in letters that are on file with the Clerk. Petitioners have filed a blanket consent and the consent of Respondent is being lodged herewith. Pursuant to S. Ct. R. 37.6, counsel for *Amicus* state that no counsel for a party authored this brief in whole or in part and no person or entity, other than *Amicus* or its counsel, made a monetary contribution to the preparation or submission of this brief.

[2] *See* Agilent, Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 (Dec. 21, 2015), Sec. & Exch. Comm'n File No. 001-15405 (hereafter, "Agilent 2015 10-K") at p. 3-4; *See also* Agilent, Agilent Fact Sheet (Mar. 18, 2015), http://www.agilent.com/about/companyinfo/agilent-fact-sheet.pdf. (hereafter, "Agilent Fact Sheet") (clarifying financials after spinoff of measurement business, now Keysight Technologies, Inc.).

[3] *See* Agilent, Company Information, http://www.agilent.com/about/companyinfo/index.html.

[4] *See* Agilent 2015 10-K at pp. 3-8.

[5] *See id.* at pp. 3-8.

Agilent has manufacturing activities in the United States and around the world that represent substantial investments. Agilent's life sciences and diagnostic business has manufacturing facilities in California, Colorado and North Carolina in the U.S. Outside of the U.S., Agilent has life sciences manufacturing facilities in Germany, Malaysia, Singapore and the U.K. Its FDA-registered sites include Texas, Colorado, Denmark and California.[6] Agilent's chemical analysis business is similarly diverse and global. Agilent's chemical analysis business has manufacturing facilities in California and Delaware in the U.S. Outside of the U.S., it has manufacturing facilities in the Netherlands and the United Kingdom.[7] Agilent's revenue is generated 35% in the Americas, 32% in Europe, and 33% in the Asia-Pacific region. Its 12,000-person workforce is located 36% in the Americas, 27% in Europe, and 37% in the Asia Pacific region.[8]

As is typical of global advanced technology companies, Agilent manufactures some standard products and also makes highly configurable products.[9] Many of its products incorporate individual components that are used in multiple other Agilent products. It utilizes just-in-time manufacturing and does not maintain a high level of inventory.[10] Accord-

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[6] *See id.* at pp. 7, 9.

[7] *See id.* at p. 11.

[8] *See* Agilent Fact Sheet.

[9] *See* Agilent 2015 10-K at pp. 7, 9.

[10] *See id* at pp. 7, 9.

ingly, Agilent must employ advanced global supply chain management systems that are flexible and responsive.

Agilent respects the intellectual property rights of others as a core corporate operating principle, so Agilent seeks reasonable certainty regarding patent infringement liability for making and sourcing U.S.-made components in a global supply and manufacturing system. The short timeframes for response in organization-wide supply chain management systems do not accommodate extended legal analysis of patent liability exposure as part of a decision on where to make or source a component, especially where that potential liability is based on a common, staple component used in multiple products. In addition, it can be expensive, time-consuming, and disruptive to establish new manufacturing facilities or move manufacturing to a different facility or country.[11] Thus, once approved manufacturing processes and practices are established at a particular facility or set of facilities, manufacturing will stay there absent emergency or other extenuating circumstances. This is particularly true in highly regulated industries such as Agilent's diagnostics business.

Accordingly, Agilent's worldwide manufacturing operations stand to be adversely impacted by the decision of the U.S. Court of Appeals for the Feder-

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[11] *See* James Manyika *et al.*, *Manufacturing the Future: The Next Era of Global Growth and Innovation*, McKinsey & Co., Nov. 2012, at p. 54, http://www.nist.gov/mep/data/upload/Manufacturing-the-Future.pdf.

al Circuit in *Promega Corp. v. Life Technologies Corp.*, 773 F.3d 1338 (Fed. Cir. 2014). That decision created a test that imposes outsized liability for global sales of multi-component products based on manufacturing and shipment of commonplace, but technologically essential, components in and from the United States. That decision alters the patent law in a manner that reduces flexibility, increases risk and cost of U.S. manufacturing, and threatens to penalize U.S. manufacturing of components. The Federal Circuit's decision also makes U.S.-based manufacturers a target for speculative patent infringement allegations by exposing them to significant infringement liability for activities and sales occurring outside the U.S. based on a nominal or *de minimis* connection to the U.S.

SUMMARY OF ARGUMENT

This case does not merely concern an arcane point of patent law. Rather, it involves a serious threat to United States manufacturing operations reflecting a lack of understanding of modern manufacturing and supply chain management, global sourcing of components, and manufacturing constraints in regulated industries.

The Federal Circuit's decision imposed $52 million in U.S. patent damages based on worldwide sales of a completed product, triggered by the sourcing of a single staple component from the United States. This is a dramatic expansion of the text and purpose of 35 U.S.C. § 271, which was enacted to

target products that were effectively manufactured in the United States, but assembled overseas to artificially avoid the infringement statute. Section 271(f) addresses that problem by imposing liability in two narrow, and complementary, scenarios.

The Federal Circuit's test incorrectly expands section 271(f)(1) to impose liability where a single staple or commodity component is sourced from the United States. But U.S. sourcing of staple or commodity components is often desirable in modern supply chain management systems, which developed for legitimate business reasons—not from any attempt to artificially evade U.S. patent liability—and have become well-established and essential in the 30 years since Section 271 was enacted. Agilent's manufacturing of diagnostic kits provides an illustrative example of features of modern supply chain management and the pervasiveness and importance of the global sourcing of components, as well as the problems and risks of the Federal Circuit's incorrect test.

The Federal Circuit's "qualitative importance" test for staple components to trigger U.S. liability transforms millions of commonplace components into jurisdictional hooks for U.S. patent liability on entire products having minimal connection to the United States. This result is inconsistent with the text and purpose of the statute, unpredictable, and difficult to risk-manage except by moving component manufacturing abroad. Paradoxically, the outsized damages amount in this case, of $52 million for a single component, is significant enough to

have material effects on manufacturing and sourcing decisions, and has the potential to drive component manufacturing overseas even when U.S. manufacturing would otherwise be optimal.

ARGUMENT

I. SECTION 271(f) PRECLUDES SPECIFIC SETS OF CONDUCT AND CIRCUMSTANCES THAT CONGRESS DETERMINED UNFAIRLY CIRCUMVENT U.S. PATENT LAW

Section 271(f) was enacted to prevent the avoidance of liability under U.S. patent law by the mere expedient of exporting a patented invention in unassembled pieces where the patented invention is otherwise substantially manufactured entirely within the United States. Section 271(f) addresses two scenarios, the first where multiple components (including commodity components) are made in and exported from the United States and the second where individual specialized components are made in and exported from the United States. The statute imposes specific sets of conduct and circumstances necessary to trigger liability.

A. Section 271(f) Remedies a "Fraud on the Infringement Statute"

Congress enacted 271(f) in response to *Deepsouth Packing Co., Inc. v. Laitram Corp.*, 406 U.S. 518, 524 (1972)("*Deepsouth*"). *Deepsouth* was decided in the context of several earlier cases with which it shares a common foundation: substantial conduct

within the United States in furtherance of infringement of a U.S. patent that artificially avoids liability by deferral of routine final assembly.

An early Second Circuit case, *Radio Corporation of America v. Andrea*, 79 F.2d 626 (2nd Cir. 1935) involved the export from the United States of all of the parts of a patented combination invention (a combination of electrical circuits embodied in a radio receiver and vacuum tubes) in unassembled form with the intent that the parts be assembled by the purchasers into the patented combination outside the United States (by placing the vacuum tubes into the receiver's sockets). 79 F.2d at 627. The defendant both manufactured the receiver and purchased the vacuum tubes within the United States, and exported them together in the same carton but with the vacuum tubes not placed in the sockets. *Id.* The Second Circuit initially found no infringement because the individual receiver and vacuum tube components were not combined into the invention until after those individual components were outside the United States. *Id.* at 628 (the patentee's "monopoly does not cover the manufacture or sale of separate elements capable of being, but never actually, associated to form the invention. Only when such association is made is there a direct infringement of his monopoly, and not even then if it is done outside the territory for which the monopoly was granted.").

The Second Circuit reversed course, however, after new facts came to light on remand. The defendant conceded that the vacuum tubes were placed

into the sockets of the receiver within the United States for testing before then being disassembled for export. *Radio Corporation of America v. Andrea*, 90 F.2d 612, 613 (2nd Cir. 1937). The court found that "[w]here the elements of an invention are thus sold in substantially unified and combined form, infringement may not be avoided by a separation or division of parts which leaves to the purchaser a simple task of integration" because "[o]therwise a patentee would be denied adequate protection." *Id.* This second *Andrea* decision was construed in subsequent decisions as imposing liability only where the components were initially assembled into the patented invention within the United States before being disassembled for export and re-assembly abroad.

In *Cold Metal Process Co. v. United Engineering & Foundry Co.*, 235 F.2d 224 (3rd Cir. 1956), the Third Circuit applied the rule of the first *Andrea* decision. The defendant manufactured all of the parts for 14 steel rolling mills within the United States and exported those unassembled parts to be assembled by the purchasers into completed mills outside the United States. 235 F.2d at 229. Where those parts were exported in unassembled form for assembly outside the United States, manufacturing all of the parts of a patent invention within the United States was not infringing. *Id.* at 230. The Third Circuit distinguished the second *Andrea* decision on the grounds that the mills had not been initially assembled and tested within the United States and then disassembled for export. *Id.* at 230

("In the present case, however, no such assembling or testing in this country took place. Accordingly the rule laid down in the first *Andrea* opinion applies here rather than that stated in the second.").

The Seventh Circuit also followed the first *Andrea* decision in *Hewitt Robins, Inc. v. Link-Belt Company*, 371 F.2d 225 (7th Cir. 1966), where the defendant manufactured the individual parts for a patented reclaiming device, assembled certain portions of it within the United States to "check clearances" and "to ensure fit," and exported the parts in multiple shipments to Turkey where they were assembled into the completed reclaimers with the defendant's assistance. *Id.* at 227-28. The Seventh Circuit affirmed the district court's determination that there was no infringement because "the manufacture and sale in this country of parts of an apparatus to be assembled outside the territorial limits of the United States does not infringe a combination patent limited to the embodiment of those parts as elements in combination." *Id.* at 229.

The *Deepsouth* cases arose in the Fifth Circuit from an adjudged infringer's request for relief from an injunction, seeking court approval to manufacture in the United States all of the components of a multicomponent shrimp vein-removing device and export those components to Brazil with the intent that they be assembled there. *Laitram Corp. v. Deepsouth Packing Co.*, 310 F.Supp. 926, 926 (E.D. La 1970)("defendant will supply all of the parts necessary for the complete operation of the slitter and deveiner"); *Laitram Corp. v. Deepsouth Pack-*

ing Co., 443 F.2d 936, 938 (5th Cir. 1971)(quoting the president of Deepsouth advising a foreign customer that "we can manufacture the entire machine without any complication in the United States, with the exception that there are two parts that must not be assembled in the United States, but assembled after the machine arrives in Brazil"); *Deepsouth*, 406 U.S. at 524 ("Deepsouth in all respects save final assembly of the parts 'makes' the invention. It does so with the intent of having the foreign user effect the combination without Laitram's permission.").

The district court followed the rule of the first *Andrea* case and the *Cold Metal Process* and *Hewitt Robins* cases and determined that the proposed course of action would not infringe and was therefore permissible under the injunction. *Laitram Corp.*, 310 F.Supp. at 927-29 (E.D. La 1970). The Fifth Circuit disagreed, however, holding that "when all the parts of a patented machine are produced in the United States and, in merely minor respects, the machine is to be finally assembled for its intended use in a foreign country . . . the machine is 'made' within the United States." 443 F.2d 936, 939 (5th Cir. 1971). The Fifth Circuit expressed concern that a person could "set up shop next door to a patent-protected inventor whose product enjoys a substantial foreign market and deprive him of this valuable business" and thus "be allowed to reap the fruits of the American economy—technology, labor, materials, etc." without being "sub-

ject to the responsibilities of the American patent laws." *Id.*

This Court reversed, endorsing the rule of the first *Andrea* case and the *Cold Metal Process* and *Hewitt Robins* cases. This Court framed the issue in terms of what was made and sold within the United States. 406 U.S. at 527 ("[t]he sales question thus resolves itself into the question of manufacture: did Deepsouth 'make' (and then sell) something cognizable under the patent law as the patented invention, or did it 'make' (and then sell) something that fell short of infringement?"), and determined that the patented invention had not been "made" within the United States, *id.* at 528 ("We cannot endorse the view that the 'substantial manufacture of the constituent parts of [a] machine' constitutes direct infringement when we have so often held that a combination patent protects only against the operable assembly of the whole and not the manufacture of its parts.").

This Court recognized how close Deepsouth had come to infringing, 406 U.S. at 524 ("Deepsouth in all respects save final assembly of the parts 'makes' the invention. It does so with the intent of having the foreign user effect the combination without Laitram's permission. Deepsouth sells these components as though they were the machines themselves; the act of assembly is regarded, indeed advertised, as of no importance"), but explained that the substantial manufacture of the constituent parts of a patent invention could not be a

direct infringement "absent a congressional recasting of the statute." *Id.* at 528.

In each of these cases, the defendants reaped the reward of substantial conduct within the United States while narrowly and artificially evading the literal reach of the patent infringement statute. Each of the defendants manufactured or sourced all of the components of a patented invention within the United States and exported them from the United States, thereby exploiting "the fruits of the American economy—technology, labor, materials, etc." (as the Fifth Circuit explained in its *Deepsouth* decision) as well as the benefits and protections of United States law and other conveniences and efficiencies of operating locally. Each of the defendants also intended the parts to be assembled outside the United States, and thereby to compete with the owner of the U.S. patent for foreign sales. Despite the significant U.S.-based activities and interests, each of the defendants nevertheless successfully remained a hair's breadth away from infringing U.S. patents.

In 1984, Congress "recast" the statute, enacting section 271(f) to provide a remedy for the foregoing scenario. PUB. L. 98-622, NOV. 8, 1984, SECTION 101(A), 98 STAT. 3383. Section 271(f) is analogous to the doctrine of equivalents where the "fraud on a patent" remedied by that doctrine may be likened to a "fraud on the infringement statute" remedied by 271(f). For example, in the same way that "permit[ting] imitation of a patented invention which does not copy every literal detail . . . convert[s] the

protection of the patent grant into a hollow and useless thing," *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 607 (1950), permitting an invention to be substantially completed before leaving the United States, with only routine extraterritorial effort required to complete it and put it into service, rendered Section 271 unable to offer a remedy. The deferral of the final assembly which artificially avoided the reach of Section 271 can be viewed as an "unimportant and insubstantial change[]" that "place[s] the inventor at the mercy of verbalism and would be subordinating substance to form." *Id.* at 607. By enacting Section 271(f), Congress patched a hole in the patent law that was "leav[ing] room for—indeed encourage[ing]—the unscrupulous copyist to make unimportant and insubstantial changes and substitutions in the patent which, though adding nothing, would be enough to take the copied matter outside the claim, and hence outside the reach of law." *Id.*

B. Congressional Limits on the Scope of Section 271(f): The Anatomy and Harmony of Section 271(f)

In simple conceptual terms, the essential act of infringement set forth in 271(f) is supplying one or more components of an invention from the United States to be combined outside the United States into that invention. But section 271(f) imposes specific conditions on that essential act of infringement to ensure that the prohibited conduct is narrowly targeted and does not amount to an

improper or undue extraterritorial application of U.S. patent law. Each of the subsections, (f)(1) and (f)(2), target specific conduct and circumstances, and each has two basic parts: First, a characteristic or characteristics of that which is supplied from the United States, and, second, an act or state of mind of the supplying person.

Section 271(f)(1) provides only one essential characteristic of that which is supplied from the United States: That it be "all or a substantial portion" of the components of a patented invention. The act or state of mind of the supplying person is supplying in a manner to "actively induce" someone to combine those supplied components outside the United States in a manner that would infringe the patent if such combining were done within the United States. Pursuant to well-recognized statutory construction principles, "actively induce" in 271(f)(1) should mean the same thing as "actively induces" in 271(b) such that there is a state of mind element and an objective act element. *See, e.g., Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060 (2011)("Although the text of § 271(b) makes no mention of intent, we infer that at least some intent is required. The term 'induce' means '[t]o lead on; to influence; to prevail on; to move by persuasion or influence.' WEBSTER'S NEW INTERNATIONAL DICTIONARY 1269 (2d ed. 1945). The addition of the adverb 'actively' suggests that the inducement must involve the taking of affirmative steps to bring about the desired result, *see id.*, at 27.").

The requirements of (f)(1) are logically linked to ensure that the covered circumstances would, but for the statute, be an artificial evasion of what Congress deemed the otherwise appropriate domestic reach of U.S. patent law. For example, under (f)(1) the manufacturing and export of staple or commodity goods invokes liability under U.S. patent law only where those commodity goods represent all or a substantial portion of the patented invention and there is active inducement to combine them into the invention abroad. Those specific requirements provide the indicia that the conduct at issue is properly subject to U.S. patent law and not an improper extraterritorial application of U.S. patent law.

In contrast, section 271(f)(2) provides three essential characteristics of that which is supplied from the United States: (i) at least one (*i.e.*, "a") component of a patented invention (ii) that is especially made or especially adapted for use in the patented invention and (iii) not a staple article or commodity of commerce suitable for substantial non-infringing use. The act or state of mind of the supplying person is knowledge of those characteristics of the component and intent that the component will be combined in a manner that would infringe if done within the United States. As with "actively induces" in section 271(f)(1), the knowledge requirement in 271(f)(2) should mean the same thing as "knowing the same to be especially made or especially adapted for use in an infringement of such patent" state of mind requirement of

section 271(c). *See, e.g., Global-Tech*, 131 S. Ct. at 2067 ("A violator of § 271(c) must know 'that the combination for which his component was especially designed was both patented and infringing.'"); *Commil v. Cisco*, 135 S.Ct. 1920, 1926 (2015)("Like induced infringement, contributory infringement requires knowledge of the patent in suit and knowledge of patent infringement.").

Like subsection (f)(1), the requirements of (f)(2) are logically linked to ensure that the covered circumstances would, but for the statute, be an artificial evasion of what Congress deemed the otherwise appropriate reach of U.S. patent law. For example, (f)(2) applies where only a single component especially made or especially adapted for use in the patented invention is supplied, and in that situation only the associated knowledge and intent, as opposed to active inducement, are needed to provide sufficient indicia that the supply of that specialized component is properly subject to U.S. patent law and not an improper extraterritorial application of U.S. patent law.

Subsections (f)(1) and (f)(2) and their respective (and very different) requirements present not only contrast but harmony in providing remedies while avoiding unintended or improper extraterritorial application of U.S. law. For example, the specialization of the component—an objective fact—in (f)(2) speaks for itself in a manner that commodity goods cannot, and active inducement—an objective act—in (f)(1) adds evidentiary weight that subjective knowledge and intent cannot.

For interpretive purposes, subsection (f)(1) directly echoes the facts of the above-discussed cases against which section 271(f) was enacted, where all of the components of the patented inventions were made in the United States and exported with an intent they be routinely combined. That should be the starting point for determining the scope of liability under subsection (f)(1). The additional scope introduced by the words "or a substantial portion" should therefore be evaluated from the perspective of how close the portion of the components supplied comes to being "all" of the components of the patented combination.

At very least, then, the manufacture within and export from the United States of a single component of a multicomponent product should not trigger potential liability under subsection (f)(1). In such a scenario, the patentee should have remedy, if any at all, solely under subsection (f)(2). Where a single component manufactured within and exported from the United States is a commodity component, there should be no remedy at all under section 271(f).

II. MODERN SUPPLY CHAIN MANAGEMENT SYSTEMS AND THE GLOBAL SOURCING OF COMPONENTS FROM VARIOUS COUNTRIES EVOLVED FOR VALID ECONOMIC REASONS, NOT TO CIRCUMVENT U.S. PATENT LAW

Manufacturing has changed profoundly in the 30 years since Section 271(f) was enacted, due to the

development and widespread adoption of supply chain management. These changes occurred for valid economic reasons and not to circumvent U.S. patent law.

A. Supply Chain Management Systems & Global Sourcing Have Dramatically Altered Manufacturing

1. Origins of Supply Chain Management Systems

Although the concept may seem intuitive today, the term "supply chain management" was only coined by the management consultant Keith Oliver in 1982, two years before § 271(f) was enacted.[12] At that time, it was radical to suggest that a company's production, sales, finance, marketing and distribution functions should work in a coordinated fashion, to eliminate problems arising from each function viewing its goals and plans in isolation, and to instead view these functions as part of an integrated supply chain in order to make finished goods available more efficiently.[13]

Today, supply chain management is a well-established field, with academic programs at the Massachusetts Institute of Technology,[14] Michigan State

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[12] *See* Tim Laseter & Keith Oliver, *When Will Supply Chain Management Grow Up?*, strategy+business, Fall 2003, http://www.strategy-business.com/article/03304?gko=54182.

[13] *See id.*

[14] Mass. Inst. of Technology, MIT Supply Chain Management, http://scm.mit.edu/program.

University,[15] and Penn State,[16] among many others. Companies have chief procurement officers to lead these efforts.[17] Specialized software is employed to design and monitor the supply chain.[18] Supply chain management systems are ever more sophisticated in their efforts to analyze the entire supply chain strategically to balance cost, risk, and flexibility.[19] There is a greater understanding and sophistication of these tradeoffs, as early efforts at high-speed, low-cost supply chains proved unable to respond to unexpected changes in supply.[20] There is constant attention to designing supply chains that have sufficient flexibility and redundancy to be resilient in the face of political unrest and natural disasters.[21]

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[15] Michigan State Univ. Eli Broad School of Business, Department of Supply Chain Management, https://supply-chain.broad.msu.edu/.

[16] Penn. State Univ. Smeal College of Business, Master of Professional Studies in Supply Chain Management, http://www.smeal.psu.edu/mps.

[17] *See* Laseter & Oliver, *supra* n.12.

[18] *See* Claudia H. Deutsch, *Supply Chain Software: An Industry on a Thrill Ride*, N.Y. Times, May 31, 1998.

[19] *See* Laseter & Oliver, *supra* n.12.

[20] *See* Hau L. Lee, *The Triple-A Supply Chain*, Harvard Bus. Rev., Oct. 2004.

[21] *See* David Simchi-Levi *et al.*, *From Superstorms to Factory Fires: Managing Unpredictable Supply-Chain Disruptions*, Harvard Bus. Rev., Jan. 1, 2014.

2. Evolution From Initial Focus on Cost-Cutting to Reflect the Need for Resilience to Disruptions and Disasters

Modern supply chain management requires efficient, flexible, responsive and resilient manufacturing operations that minimize inventory and cost, while allowing for rapid response to changes in customer demand or to crises that disrupt operations. To be competitive, companies must design rapidly adaptable products and be able to rapidly adapt individual manufacturing sites. This is accomplished through modern supply chain management systems, in which each manufacturing site must be an integrated component of the company's operations.

Supply chain management must be capable of dealing not only with ordinary recurring risks, such as labor disputes, transportation breakdowns, and changes in customer preference, but also with rare but significant disruptions.[22]

The difference between the response of Cisco Systems, Inc. ("Cisco") to Hurricane Katrina in 2005 and to the Japanese earthquake and tsunami in 2011 demonstrates the continuing evolution of supply chain management, and is illustrative of the level of responsiveness that is expected in today's

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[22] *See* Sunil Chopra & Manhohan S. Sodhi, *Reducing the Risk of Supply Chain Disruptions*, MIT Mgmt. Rev., Spring 2014, at 73, 74, http://sloanreview.mit.edu/article/reducing-the-risk-of-supply-chain-disruptions/.

business environment. After Hurricane Katrina, Cisco found that its supply chain management was inadequate to satisfy the immediate demand for $1 billion in new equipment to replace damaged telecommunications infrastructure. Cisco's risk mitigation and response system could not locate all its products in the supply chain or determine the financial effects of emergency sales. In response to this failure, Cisco redesigned its supply chain management and six years later, after the March 11, 2011 Japanese earthquake and tsunami, Cisco was able within 12 hours to assess the effects on 300 suppliers in the region and 7,000 affected parts, plan a response, and identify teams to field customer inquiries. [23]

This current emphasis on adaptability and resilience represents a shift from previous decades, when manufacturers focused more narrowly on minimizing inventory and trimming costs of production. Some of the techniques used to lower production cost—such as outsourcing to low-cost production sites in faraway countries, relying on fewer suppliers, and excessively relying on common interchangeable parts—were rejected in favor of truly modern supply chain systems that balanced many factors.[24]

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[23] *See* Maria Jesús Sáenz & Elena Revilla, *Creating More Resilient Supply Chains*, MIT Mgmt. Rev., Summer 2014, http://sloanreview.mit.edu/article/creating-more-resilient-supply-chains/.

[24] *See* Chopra & Sodhi, *supra* n.21, at 74.

3. "Postponement" and the Use of Multi-purpose Components are Essential Strategies in "High Mix-Low Volume" Markets

Agilent is typical of modern supply chain management trends for advanced technology global companies. Like its peers, Agilent relies upon sophisticated supply chain management consulting and tools to manage the variation in demand for its products.[25] Its market is global, drawn equally from Europe, Asia and the Americas, and Agilent deploys its workforce and manufacturing operations among those regions as well. It faces routine fluctuations in demand as well as the risk of major unexpected disruptions.

Much of Agilent's market is "high mix-low volume"—that is, it moves a comparatively small number of units of each of its products, and clients demand a much greater degree of customization.[26] Agilent has responded to this "high mix-low volume" market by designing products that use common components that can be readily customized in different configurations in response to demand. This process is termed "postponement" because it

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[25] *See* Kinaxis, *Comprehensive Supply Chain Visibility Across a Multi-Enterprise Supply Chain*, http://www.kinaxis.com/ Global/resources/case-studies/comprehensive-supply-chain-visibility-agilent-case-study-kinaxis.pdf (hereafter, "Kinaxis Study"). (While this study was prepared prior to the spinoff of Keysight from Agilent in 2014, the case study remains accurate for the facts cited in this *amicus* brief.).

[26] *See* Kinaxis Study, *supra* n.25.

allows companies to maintain the ability to respond to market demand later in the production cycle.[27] Indeed, Hewlett-Packard, from which Agilent was spun off in 1999, was a pioneer in successfully using modular product design to "mass-customize" products quickly while keeping its costs low, as when purchasers of personal computers select the desired features and the product is assembled to order.[28] Like its peers, Agilent manages risk by establishing multiple sources of supply and redesigning products to use alternative components.[29] Agilent must be able to plan, instantly monitor and tightly manage a supply chain network that involves participants scattered around the globe.[30]

4. The Use of Globally-Sourced Components Has Significant Public Benefits And Is Not For the Purpose of Circumventing U.S. Patent Law

In contrast to the facts of *Deepsouth* and the other pre-271(f) cases, modern supply chain management practices did not arise from any desire to thwart or artificially avoid liability under U.S.

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[27] *See* Hau L. Lee, *supra* n.20.

[28] Edward Feitzinger & Hau L. Lee, *Mass Customization at Hewlett-Packard: The Power of Postponement*, Harvard Bus. Rev., Jan. 1997. *See also Mass Customization*, The Economist, Oct. 22, 2009, http://www.economist.com/node/14299807.

[29] *See* Agilent 2015 10-K at p. 12.

[30] *See* Kinaxis Study, *supra* n.25.

patent law. The use of global sourcing of components is consistent with trends in consumer goods, and evolved in the life sciences industry, as it did in other industries, for the purpose of remaining economically competitive by delivering high-quality products that meet market demand in a timely fashion.

There are also significant public policy benefits to supply chain management in the diagnostic, pathology and life science businesses. In these businesses, shortages have consequences of substantial public concern. Shortages in the health care industry make manufactures, consumers, and patients vulnerable to counterfeiters and gray market vendors selling healthcare products at a significant markup, which poses risks to patients.[31] Shortages can therefore result in ineffective therapy, increased drug resistance due to substandard medications, and injury from counterfeit substances.[32] Shortages can also delay treatment, cause physicians to choose therapies that are less effective or have avoidable risks, and disrupt clinical trials and other research.[33]

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[31] *See* Thomas Ebel *et al.*, *Building New Strengths in the Healthcare Supply Chain*, McKinsey & Co., Jan. 2013, at 3, http://www.mckinsey.com/insights/health_systems_and_services/strengthening_health_cares_supply_chain_a_five_step_plan.

[32] *See id.* at 4.

[33] *See* U.S. Food and Drug Administration, *Strategic Plan for Preventing and Mitigating Drug Shortages* (Oct. 2013) at 8, http://www.fda.gov/downloads/-Drugs/DrugSafety/DrugShortages/UCM372566.pdf.

B. Agilent's Diagnostic Kits Are Illustrative of Key Features of Modern Supply-Chain Management

Agilent's diagnostic kits illustrate how modern supply chains systems use common commodity components across multiple products. They also illustrate a complementary feature: the need for certainty and stability for manufacturing in regulated industries.

1. Agilent's Estrogen/Progesterone Diagnostic Test Kits for Breast Cancer

In the diagnosis of breast cancer, testing for various biomarkers is now routine to help assess the aggressiveness of the cancer and identify factors that may fuel tumor growth or be responsive to treatment. Receptivity to estrogen and progesterone is one of these factors, and testing of tumor samples for estrogen-progesterone responsiveness ("ER/PR") is standard of care.[34] Patients whose tumors are strongly ER/PR receptive can make lifestyle changes (such as avoiding hormonal methods of birth control, pregnancy, and estrogen replacement therapy for menopause) and are treated with medications that alter the body's production and response to these hormones.[35]

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[34] American Society of Clinical Oncology, *Estrogen and Progesterone Receptor Testing for Breast Cancer*, http://www.cancer.net/research-and-advocacy/asco-care-and-treatment-recommendations-patients/estrogen-and-progesterone-receptor-testing-breast-cancer.

[35] *See id.*

Agilent offers several ER/PR kits and products, which are described in the pathology catalogue of Agilent's Dako subsidiary.[36] One of these products is product number SK310, an ER/PR test kit, which is designed for use in automated pathology slide staining instruments,[37] which allow tissue samples to be processed more rapidly.[38] Agilent also sells the ER and PR antibodies separately.[39]

The SK310 ER/PR kit product specification lists the kit components.[40] These include:

- Epitope retrieval solution (a citrate buffer with an antimicrobial agent);
- Peroxidase-blocking reagent;
- ER antibody cocktail;
- PR antibody;
- Negative control reagent;

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[36] Dako, *2016 Catalog: Products and Services (Pathology)*, pp. 146-147, http://www.dako.com/us/08005_pathology-catalog-2016_us.pdf (hereafter, "Pathology Catalog"). Dako was acquired by Agilent in 2012. *See* Agilent 2015 10-K at 29, n.1.

[37] *See* Pathology Catalog at pp. 38, 146-147. Dako, ER/PR pharmDx Kit for the Dako Autostainer, http://www.dako.com/us/ar49/p235372/prod_products.htm.

[38] *See* Dako, *Dako Autostainer Plus User Guide*, http://www.dako.com/0003107_rev_d_man_user_guide_autostainer_plus_english.pdf; Dako, Autostainer Link 48, http://www.dako.com/us/ar48/p235462/prod_products.htm.

[39] *See* Pathology Catalog, at pp. 46, 50.

[40] *See* Dako, ER/PR pharmDx Kit (Link) (SK310), http://www.dako.com/us/download.pdf?objectid=128036002 (hereafter, SK310 Product Specifications).

- Visualization reagent;
- DAB+ substrate buffer;
- DAB+ chromogen;
- Reagent bottles;
- Wash buffer concentrate; and
- Control slides.[41]

Additional materials and equipment, such as slides, coverslips, water, a microscope, a pressure cooker, and tissue samples, are required, but not supplied with the kit.[42]

2. Agilent's ER/PR Kit Includes Interchangeable Staple Components

The wash buffer concentrate used with Agilent's SK310 ER/PR Kit is an example of a staple, commonplace component used in Agilent's diagnostic products. This component is used to prepare a wash buffer for use in immunohistochemical testing procedures, which use antibodies to identify specific protein components of tissue samples.[43] The wash buffer can be used in Dako testing equipment or when staining manually.[44] This particular

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[41] *See* SK310 Product Specifications at pp. 1-3.

[42] *See id.* at p. 3.

[43] Dako, Wash Buffer 10x (S3006) Product Specification Sheet, p. 1, http://www.dako.com/us/download.pdf?objectid=107011002.

[44] *See id.*

wash buffer concentrate is included in seven Agilent products, including both ER/PR test kits, and other test kits, and is sold separately.[45]

The wash buffer is technically essential to the test. It is used to remove unwanted molecules, but is relatively inert so that it does not react with and alter the specimen.[46] While it is important for a wash buffer to be formulated correctly to avoid generating false negative or positive results, wash buffer is a commonplace component in many tissue testing procedures and finished products.

3. Agilent's Diagnostic Business Includes U.S. Manufacturing Facilities

Agilent's diagnostics business is also typical of regulated industries in which manufacturing facilities require governmental approvals to operate, and component manufacturing needs to meet stringent quality control requirements.[47] Because it is costly and time consuming to establish such facili-

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[45] Dako, Safety Data Sheet: Wash Buffer 10x, http://www.dako.com/us/download.pdf?objectid=126645001 (Listing products in which the wash buffer is used, under "material uses.").

[46] *See* SK310 Product Specifications, at p. 8 (general limitations no. 7), p. 10 ("Troubleshooting").

[47] *See, e.g.*, U.S. Food and Drug Administration, Overview of IVD Regulation, http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/IVDRegulatoryAssistance/ucm123682.htm#14 (in particular, sections entitled "How does FDA Look at Quality Control?: and "What are Good Manufacturing Practices (GMPs) and Quality System Regulations (QSRs)?)."

ties, manufacturers like Agilent site them with the goal of having them operate long-term. Agilent's life sciences and diagnostic business has manufacturing facilities in California, Colorado and North Carolina in the U.S.[48] It has long been recognized, particularly in the pharmaceutical and life sciences industries, that an agile supply chain requires stability in planning, scheduling, and performance management to meet demand in regulated industries and if the supply chain is to be responsive to demand changes.[49]

III. THE FEDERAL CIRCUIT'S "QUALITATIVE IMPORTANCE" TEST IS CONTRARY TO THE STATUTE, VAGUE AND IMPRACTICABLE, AND WILL PROFOUNDLY AFFECT COMPANIES THAT MANUFACTURE COMPONENTS IN THE UNITED STATES

A. The Federal Circuit's "Qualitative Importance" Test Blurs (f)(1) and (f)(2), Extends Far Beyond Reversing *Deepsouth*, and Frustrates the Statutory Scheme

As discussed Section I *supra*, sections 271(f)(1) and 271(f)(2) provide harmonious and complementary protections where an invention is substantially completed within the United States but patent infringement liability is avoided merely because the insubstantial assembly of the completed invention occurs outside the territorial limits of the

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[48] *Supra* n. 6.

[49] *See*, Ebel, *supra* n. 31, at 6.

United States. The statutory requirements regarding that which is supplied from the United States and the action or state of mind of the supplier are specific, different, and complementary, and the statute expressly sets forth minimum connections to intra-United States activity and interests necessary for liability to be imposed.

The Federal Circuit's test for liability under 271(f)(1) is incorrect because instead of asking whether "all or a substantial portion of the components of the invention" are at issue, the Federal Circuit's test asks how "important" a component is to the invention. *See Promega Corp. v. Life Technologies Corp.*, 773 F.3d 1338, 1353 (Fed. Cir. 2014)("we disagree with the district court that a single component supplied from the United States, no matter how important or central to the invention, can never constitute 'a substantial portion of the components of a patented invention.'"). Subsection (f)(1) focuses on the substantiality of U.S.-based activity in terms of how much of a multi-component invention is made in the United States, not how important a particular component is. The Federal Circuit's test imposes liability in circumstances with far more limited U.S. connections and interests than were at issue in the judicial decisions that section 271(f) was designed to overrule, disrupts the harmony of the two subsections, and introduces vagueness by importing (f)(2)-like considerations into (f)(1).

Subsection (f)(1) is based on *Deepsouth* and each of the other related decisions that involved supply

of all of the components of the invention. Congress extended liability where "a substantial portion" of all of the components are supplied from the United States to allow limited flexibility and in keeping with the statute's intent to prevent essentially fraudulent efforts to circumvent liability under section 271. But this flexibility cannot fairly be read to extend to imposing liability for the supply of a single technologically "important" component. The technological "importance" of a particular component is relevant, if at all, only to whether the component is "especially made or especially adapted for use in the invention" under subsection (f)(2). The Federal Circuit's test essentially converts (f)(1) into a vague and more lenient backup for (f)(2) where the latter's requirements are not satisfied.

B. The Federal Circuit's Test Adversely Affects Legitimate Interests in Efficient Supply Chain Management

The problem with the Federal Circuit test is exacerbated by unavoidable aspects of widely applied global sourcing and supply chain management systems, where products may include staple elements sourced from numerous countries. For example, if a single commodity or staple component such as Taq polymerase can be viewed as sufficiently "important" to an invention to trigger liability under 271(f)(1), then presumably so could many other staple, commodity goods. Modern supply chain management systems and global sourcing of components are legitimate features of the modern

business landscape with valid economic rationales, and they did not develop, and are not intended, as mechanisms to evade the otherwise legitimate reach of U.S. patent law. Accordingly, the implementation of modern supply chain management and global sourcing should not be routinely or presumptively suspect, or viewed as an intent to evade U.S. patent liability.

Further, companies like Agilent source components and site component manufacturing based on factors such as cost, safety, labor, proximity to markets, political stability, and predictable rules of law. The Federal Circuit's test would unduly burden companies relying on global sourcing of components because they will now need to factor in the potential for patent liability on worldwide sales on finished products whenever they site a component manufacturing facility in the United States or consider using a common component sourced from the U.S. Thus, cabining the concept of technological importance of a component within subsection (f)(2), where it belongs, would yield greater predictability and reduced burden.

C. The Federal Circuit's Test Creates An Exception That Swallows the Rule, Especially for Diagnostic and Life Sciences Businesses Such as Agilent

In this case, Life Technologies' Taq polymerase performed a standard molecular biology process (amplifying and increasing the quantity of DNA) in the context of a larger and more complex set of

reactions and steps to analyze a biological sample. If the Taq polymerase used by Life Technologies is deemed to be a "main" or "major" component because it is essential to the functioning of the test as a technological matter, or because witnesses testify to its technological importance to the overall functioning of test kit, any commodity or staple component that performs a necessary technological process could also be considered a "main" or "major" component of a patented invention.

The Federal Circuit's test is especially problematic in diagnostic businesses, because the nature of a diagnostic kit is such that all its components must function properly together to obtain a correct result, and each component is therefore arguably "important."

1. Most Components in Diagnostic Kits Could Be Deemed "Essential" Under The Federal Circuit's Test

The Federal Circuit cited two factors for the "qualitative importance" test for determining whether a component is a "substantial" portion of the components: First, (i) inoperability in absence of the component; and second, (ii) admission by defendant that the component was "one of the 'main' and 'major' components of the kits." *Promega*, 773 F.3d at 1356.

Assuming hypothetically that Agilent's ER/PR kit corresponds to a U.S. patented invention, virtually any component could be viewed as "qualitatively important." For example, the kit is used to

perform a chemical process and the wash buffer performs an essential function in that chemical process by washing away unwanted molecules from the specimen so that the remaining, stained portions of the sample can be evaluated. In the SK310 ER/PR kit, the wash buffer is one of eleven items, and one of three items for which there is a Safety Data Sheet. In a similar product, the K4071 ER/PR kit, it is one of eleven items, and one of just five items for which there is a Safety Data Sheet. Agilent's ER/PR kits would be inoperable without the wash buffer, and a witness might view the wash buffer in its technological context and testify that it is important or essential to the kit.

It is not plausible, however, that supplying wash buffer from the United States as a commodity component of a multicomponent diagnostic test kit is what section 271(f)(1) is designed to prohibit, especially on pain of patent infringement liability for the entire test kit. Perhaps if *all* of the components *besides* the wash buffer were supplied from the United States, and the necessary intent to actively induce infringement existed, a situation comparable to that in the cases and to that contemplated by 271(f)(1) would be present. But certainly supplying one non-specialized component should not trigger liability under Section 271(f)(1).

2. "Qualitative Importance" of a Component Is Relevant, If At All, Only Under Section 271(f)(2)

The Federal Circuit's test undermines the role of subsection (f)(1) and essentially creates a less stringent version of 271(f)(2). To the extent that the qualitative importance of a single component to an invention is relevant at all, it is addressed in Section 271(f)(2) in the form of that subsection's requirement that the supplied component be "especially made or adapted" for the invention and not a "staple article or commodity of commerce suitable for substantial noninfringing use."

Neither Life's Taq polymerase nor Agilent's wash buffer would trigger liability under subsection (f)(2) because neither Taq polymerase nor wash buffer is "especially made or adapted for use in [any] invention." Indeed, both are staple items that can be used in many molecular biology processes or tissue analysis kits and other products, including no doubt many that do not implicate any patents.

The Federal Circuit's test effectively transforms 271(f)(1) into a "backup" that will "save" claims that do not meet the more stringent standards of Section 271(f)(2) regarding the character of the component supplied from the United States. If the infringement inquiry relates to a single component, then the question under 271(f) is whether the component is "especially made or adapted" for the invention and not a "staple article or commodity of commerce suitable for substantial noninfringing

use" under subsection (f)(2). The inquiry should not also be whether it is "important" to the invention under subsection (f)(1).

3. U.S. Manufacturing of Individual Commodity Components Is Not the Type of Fraudulent Avoidance of U.S. Patent Law that Was Targeted by Congress When It Enacted Section 271(f)

Deepsouth and the related earlier cases involved manufacturers that omitted the final step of the assembly in an obvious attempt to avoid the literal reach of the patent law. Congress enacted Section 271(f) in response. The focus on intentional evasion of U.S. patent law in 271(f)(1) is captured in the sum of the requirements of that subsection, that "all or a substantial portion" of the components of a patented invention are supplied from the United States and that the U.S. activity be in such manner as to "actively induce" a combination that would infringe U.S. patent law if the combination had occurred here. Complementarily, the focus on intentional evasion of U.S. patent law in 271(f)(2) is captured in the sum of the requirements of that subsection, that the component supplied be "especially made or adapted" for the invention and not a "staple article or commodity of commerce suitable for substantial noninfringing use," that the supplier know that to be true, and that the supplier intend that the component be assembled outside the United States in manner that would infringe

U.S. patent law if the combination had occurred here.

The supply of a commodity or staple component such as Taq polymerase or wash buffer from the United States is very different from the deliberate efforts in *Deepsouth* and the other cases to avoid U.S. patent liability for products that are effectively wholly manufactured within the United States. The supply of a commodity or staple component such as Taq polymerase or wash buffer from the United States is also very different from supplying a specially-made component of a patented invention.

Congress carefully delineated two narrow scenarios that impose liability where a component or multiple components of a patented invention are sourced from the United States. Any interpretation of the statute that exceeds those specific scenarios, as the Federal Circuit's interpretation does, infringes on Congress' role and responsibility to determine the proper reach of United States laws and avoid undue or improper extraterritorial reach. Congress certainly knew how to draft a broader statute, but chose not to do so. *See Whitman v. American Trucking Ass'ns, Inc.*, 531 U.S. 457, 468 (2001).

D. The Federal Circuit's "Qualitative Importance" Test Will Discourage U.S. Manufacturing

Modern supply chain management requires adaptable multi-component products, global

responsiveness, and rapid response to disruptions and fluctuations in demand. Companies need to be able to move quickly, on an ongoing basis, to shift sourcing of components, without requiring unnecessary and excessive detailed patent analysis. Companies operating in regulated industries also need to establish stable manufacturing facilities for the long term. The Federal Circuit's "qualitative importance" test interferes with these legitimate business concerns, and will discourage U.S.-based manufacturing and the sourcing of components from the United States.

It is one thing to tell U.S. manufacturers that they cannot avoid global patent liability when they induce their customers to assemble overseas a product that consists of all or a substantial portion of U.S.-made components. It is quite another thing to say that sourcing from the United States of any "important" or "essential" component is a jurisdictional hook that potentially triggers U.S. patent liability. The Federal Circuit's decision will likely be read, especially in industries in which patent liability is a prevalent concern, as an instruction not to use U.S.-made components unless absolutely necessary.

The Federal Circuit's decision also discourages companies from investing in their own manufacturing infrastructure in the U.S. Because modern supply chain management requires companies to have the capacity to rapidly shift production and products worldwide in response to change, companies can ill afford the time or resources to undertake a

comprehensive component-by-component patent risk analysis when making decisions to source components from one location versus another, especially where the analysis is complex, potentially ambiguous, and relates to individual components that are common, staple, and would not themselves present patent liability risk.

In theory, a company could isolate U.S. manufactured components for use only in products that will be finished and sold in the U.S. But that is impracticable because it is inconsistent with the realities of modern manufacturing—the fundamental point of modern supply chain management is to promote efficiency, reduce cost, and facilitate rapid deployment of materials, components and products, globally.

In addition, under the Federal Circuit's test, the sourcing of even a single commodity component from the United States exposes the supplier to U.S. patent litigation and the potential for damages on world-wide sales of the related products. Such outsized costs and damages exposure are not proportional to the U.S. interests and connection at issue, and are inconsistent with the text and intent of Section 271(f). The Federal Circuit's test may also lead to mischief by which plaintiffs will rely on the cost of litigation, the magnitude of potential liability, and the uncertainty of the results on the merits to extract nuisance value settlements such that "a patent will reach beyond its lawful scope to discourage lawful activity" and result in "patent-related demands [that] will frustrate, rather than

'promote,' the 'Progress of Science and useful Arts.'" *Halo Electronics, Inc. v. Pulse Electronics, Inc.*, 136 S.Ct. 1923, 1937-38 (2016)(Breyer, J. concurrence).

Faced with the increased patent risks of U.S. manufacturing and the need for efficient global manufacturing solutions, many companies may choose the lower risk option and manufacture outside the United States. Thus, the Federal Circuit's "qualitative importance" test places a thumb on the scale in favor of foreign manufacturing, which is not what the statutory text requires, and not what Congress intended when enacting the statue.

CONCLUSION

This Court should reverse the decision of the Federal Circuit, for the reasons explained above and by Petitioners. Any new test for liability under Section 271(f)(1) should assess whether a patented device was for all intents and purposes manufactured in the United States. Regardless of the precise contours for liability under (f)(1), which may be developed and refined over time, two blaze marks should be clear: (i) the manufacture within and export from the United States of a single component of a multicomponent patented invention should not trigger liability under subsection (f)(1); and (ii) where a single component manufactured within and exported from the United States is a commodity component, there should be no liability at all under section 271(f).

Respectfully submitted.

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Petitioners,

v.

PROMEGA CORPORATION,

Respondent.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF OF *AMICUS CURIAE* AMERICAN INTELLECTUAL PROPERTY LAW ASSOCIATION IN SUPPORT OF NEITHER PARTY

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I. STATEMENT OF INTEREST [1]

The American Intellectual Property Law Association ("AIPLA") is a national bar association of approximately 14,000 members who are primarily lawyers engaged in private and corporate practice, in government service, and in the academic community. AIPLA members represent a wide and diverse spectrum of individuals, companies, and institutions involved directly or indirectly in the practice of patent, trademark, copyright, and unfair competition law, as well as other fields of law affecting intellectual property. Our members represent both owners and users of intellectual property. AIPLA's mission includes providing courts with objective analysis to promote an intellectual property system

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[1] Pursuant to Supreme Court Rule 37.6, AIPLA states that this brief was not authored in whole or in part by counsel to a party, and that no monetary contribution to the preparation or submission of this brief was made by any person or entity other than AIPLA and its counsel. Specifically, after reasonable investigation, AIPLA believes that (a) no member of its Board or Amicus Committee who voted to prepare this brief, or any attorney in the law firm or corporation of such a member, represents a party to this litigation in this matter; (b) no representative of any party to this litigation participated in the authorship of this brief; and (c) no one other than AIPLA, its members who authored this brief, and their law firms or employees made a monetary contribution to the preparation or submission of this brief.

The parties' counsel of record received timely notice of AIPLA's intention to file this brief, and all parties have provided their written consent. Letters evidencing consent to the filing of this brief are being filed with the Clerk of the Court pursuant to Supreme Court Rule 37.3.

that stimulates and rewards invention while balancing the public's interest in healthy competition, reasonable costs, and basic fairness.

AIPLA has no stake in any of the parties to this litigation or in the result of this case. AIPLA's only interest is in seeking correct and consistent interpretation of the law as it relates to intellectual property issues.

II. INTRODUCTION AND SUMMARY OF THE ARGUMENT

The Court is asked to consider whether a single component can be a "substantial portion of the components" for purposes of imposing patent infringement liability under 35 U.S.C. § 271(f)(1). The Federal Circuit correctly rejected the district court's quantitative reading of the statute. An interpretation of § 271(f)(1) that mandates the supply of multiple components to meet the "substantial portion" requirement is neither required by the language of the statute nor supported by the legislative history.

In addition, a quantitative-only approach to § 271(f)(1) has practical problems. For example, an accused infringer who supplies multiple but relatively unimportant components could be held liable for infringement. But an accused infringer who supplies a single but crucially important component of a multi-component invention would not. Such results would be inconsistent with the statutory language that explicitly addresses the supply of a

"substantial portion of the components," not necessarily multiple components.

In considering how § 271(f)(1) should be interpreted, the courts and parties have largely adopted an either/or approach: either the statute requires a quantitative test or it requires a qualitative test. While the statutory language and legislative history support a primarily qualitative analysis, it is entirely appropriate to consider the number of supplied components, though that number should not be a gating factor. Instead, whether supplied component(s) are a "substantial portion of the components of a patented invention" should be primarily assessed based on the importance of the supplied components to the overall invention as determined by considering the disclosure of the specification.

AIPLA thus urges the Court to adopt a flexible standard for infringement under § 271(f)(1), rooted in a qualitative analysis of the disclosure in the specification and also considering the number of supplied components.

III. ARGUMENT

The determination of liability for infringement under 35 U.S.C. § 271(f)(1) in this case turns on whether supplying a single component can qualify as supplying a "substantial portion" of the components of a patented invention. *See* Pet. at i. The statute provides:

> Whoever without authority supplies or causes to be supplied in or from the United States *all or a substantial portion of the components* of a patented invention, where *such components* are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

35 U.S.C. § 271(f)(1) (emphases added).

The correct interpretation of § 271(f)(1) does not require a strictly quantitative analysis of the number of supplied components. Rather, the statutory phrase "substantial portion" requires an analysis of the significance of the supplied component(s) relative to the overall claimed invention, while taking into account the number of supplied component(s) as a relevant factor. Such an analysis is supported by the statutory language, the legislative history, a comparison with other statutory provisions, and the Court's decision in *Microsoft*. It is also not inconsistent with the presumption against extraterritorial application of U.S. patent law.

A. Section 271(f)(1) Should Be Interpreted as Requiring a Qualitative Analysis of the Supplied Component(s) Relative to the Claimed Invention, While the Number of Supplied Components May Also Be Considered

1. The Plain Language of § 271(f)(1) Does Not Mandate that "Portion" Be Read as More Than One Component

The language of the statute, "substantial portion of the components," does not necessarily mean the term "portion" must be read as multiple components. *See Bilski v. Kappos*, 561 U.S. 593, 603 (2010) ("In patent law, as in all statutory construction, [u]nless otherwise defined, words will be interpreted as taking their ordinary, contemporary, common meaning." (alteration in original) (internal quotation marks omitted) (quoting *Diamond v. Diehr*, 450 U.S. 175, 182 (1981))). When § 271(f)(1) states "where such components are uncombined," it is referring to the totality of the components from which a "portion" is supplied by an accused infringer—it does not engraft a multiple-component requirement onto the "substantial portion" identified in § 271(f)(1).

The definition of "portion"—"a part of a whole"—does not distinguish between one part or multiple parts of the whole. *American Heritage College Dictionary* 966 (2d ed. 1991). By referring to "a part," the definition evidences that the statutory "portion" may include a single part.

By modifying "portion" with "substantial," the statute makes clear that the "portion" must be important, but does not require that the "portion" comprise multiple components of the claimed invention. Instead, the definition of "substantial" supports a qualitative analysis in applying § 271(f)(1). *Id.* at 1213 (defining "substantial" as "[o]f, pertaining to, or having substance; material"). The word "substantial" thus does not impose a minimum numerical threshold on the "portion of the components" recited in § 271(f)(1). *See id.* Had Congress wished to impose such a numerical threshold, it could have written § 271(f)(1) to require "two or more" components or a minimum percentage of the total components. Congress did not do so. *See Lopez v. Gonzales*, 549 U.S. 47, 61, 65 (2006) ("[W]e must interpret what Congress actually wrote, not what it could have written.").

Nor does the fact that the statute presents "substantial portion of the components" as an alternative to "all components" necessarily require that the alternative consist of multiple components. 35 U.S.C. § 271(f)(1). Instead, the inclusion of the phrase "substantial portion" in the statute demonstrates that § 271(f)(1) liability is intended to be broader than the *Deepsouth* "loophole" § 271(f)(1) was enacted to close. *See, e.g., Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 458 & n.18 (2007).

In addition, engrafting a numerical requirement onto "substantial portion" begs the question: what is the numerical requirement? Is it more than two, as the district court reasoned? *See*

slip op. at 22. Or is it a "quantitatively substantial percentage" of the components, as the United States posits? U.S. Br. at 16. Or does it mean "'large' or 'considerable' in quantity," as urged by the Petitioner? Pet. at 23. Interpreting the statute as mandating a numerical minimum but then leaving that minimum unclear does not assist courts or litigants in assessing infringement under § 271(f)(1).

2. A Strictly Numerical Interpretation of "Substantial Portion" in 35 U.S.C. § 271(f)(1) Would Cause Imprecise "Component" Counting to Drive the Infringement Analysis

A strictly numerical interpretation of the phrase "substantial portion" in § 271(f)(1) would result in infringement determinations based on imprecise "component" counting. In *Microsoft*, the Court noted that a "'[c]omponent' is commonly defined as 'a constituent part,' 'element,' or 'ingredient.'" 550 U.S. at 449 n.11 (citation omitted). Under this definition, engaging in an exercise of "component" counting is at best difficult and at worst fraught with inconsistent results. Such counting of "components" also would improperly exalt the format in which a patent claim is drafted over the significance of the actually supplied component(s). *See, e.g., Alice Corp. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2360 (2014) (stating that patent eligibility under 35 U.S.C. § 101 should not "depend simply on the draftsman's art" (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1294 (2012))).

Problems associated with counting components to determine infringement are demonstrated by a hypothetical patent claim similar to the claims at issue in *Deepsouth.* Consider the following three-element claim:

> 1. A machine comprising:
>
> (a) an inclined trough;
>
> (b) a blade inclined along a path down the trough; and
>
> (c) an attachment mechanism containing upper, middle, and lower fasteners for attaching the blade to the trough.

See, e.g., *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 520 (1972) (describing a claimed machine for deveining shrimp, which "exposed the veins of shrimp by using water pressure and gravity to force the shrimp down an inclined [trough]. . . .").

If a party supplied from the United States a trough and a blade (i.e., elements (a) and (b)), a numerical standard for infringement under § 271(f)(1) would likely generate inconsistent results. Assuming a numerical standard means supplying more than 50% of the "components" of a patented

invention,[2] the supplier may infringe by supplying two out of the three claim elements, assuming that a claim element is considered a "component" under § 271(f)(1). But if the drafter of claim 1 had written element (c) as three separate elements instead of one (e.g., (c1) upper fastener, (c2) middle fastener, and (c3) lower fastener), then there may be no infringement because the party supplied fewer than a majority of the components—only two of five. Under either scenario, the result is unclear and arbitrary, depending on how the "components" are counted.

The risks of a purely numerical analysis are not mitigated by a standard that simply asks whether a party has supplied more than one "component" of the patented invention instead of a majority of them. Assume, for example, that a party supplied only two of the fasteners in element (c) of claim 1, i.e., the upper and middle fasteners. In this scenario, it is unclear whether the party has supplied two components, elements (c1) and (c2), or whether the party has supplied just one component, part of element (c). The answer could be both, or it could be neither. Because element (c) recites three fasteners and the party has only supplied two of them, a court might find that the party supplied zero "components" if a component is considered an entire claim element. Or a court could find that the party supplied one component by supplying part of

---

2 The United States argues that "a substantial portion of the components" means "a quantitatively substantial percentage of those components." U.S. Br. at 16.

element (c). Or a court could find, consistent with the broad definition of "component" provided in *Microsoft*, that the party supplied two "components" by supplying two different "parts" of the claimed machine.

Considering a "[c]omponent" to be a "part," "element" or "ingredient," as the Court did in *Microsoft*, would therefore lead to imprecise and inconsistent results if component counting drives the § 271(f)(1) infringement inquiry. *See Microsoft*, 550 U.S. at 449 n.11 (citation omitted). A single claim element, such as any of elements (a) through (c) in claim 1 above, might be interpreted as a single "component" under the statute. But the single claim element (c) could also be counted as multiple "components." Conversely, multiple claim elements, e.g., fasteners (c1)-(c3), could be counted as a single "component." Such counting, meanwhile, fails to account in any way for the importance of any "component" relative to the claimed invention as a whole.

Consistent with the admonition in *Alice* that patentability should not depend on the draftsman's art, 134 S. Ct. at 2360, infringement liability should not turn on whether supplied "components" are presented as multiple claim elements, as a single claim element, or as a part of a claim element. The choice of claim format should make no difference to the substantiality of a supplied component relative to the underlying invention for purposes of an analysis under § 271(f)(1). Doing so would truly exalt form over substance. Component counting should

therefore not be determinative in an infringement analysis under § 271(f)(1).

3. Comparing the Sub-Sections of § 271(f) Does Not Mandate that "Substantial Portion" Be Read as More Than One Component

In assessing the meaning of "substantial portion of the components," both the district court and the Federal Circuit compared § 271(f)(1), reciting a "substantial portion of the components," with § 271(f)(2), reciting "any component." *See* slip op. at 28-29; 2012 U.S. Dist. LEXIS 190681, at *16-18. So did Petitioners, Respondent, and the United States. Pet. at 23-25; Resp't Br. at 5-6; U.S. Br. at 17-18.

That comparison does not mandate that the term "substantial portion" be read to require more than one component. Sections 271(f)(1) and (f)(2) do not address alternative forms of infringement, one in which multiple components are supplied and another in which a single component is supplied. Instead, § 271(f)(1) assigns liability for a type of induced infringement while § 271(f)(2) assigns liability for a type of contributory infringement. It is within this context that the statutory scheme of § 271(f) must be considered.

For example, by reciting "any component," § 271(f)(2) imposes infringement liability for supplying potentially less than a "substantial portion of the components of a patented invention." But in doing so, the statute includes additional

requirements elevating the qualitative standard. First, the "any component" cannot be a staple article or commodity of commerce suitable for substantial non-infringing use. Second, the component must be especially made or especially adapted for use in the invention. The statute further requires the supplier to act with knowledge and intent. *Compare* 35 U.S.C. § 271(f)(2), *with* 35 U.S.C. § 271(c).

By contrast, § 271(f)(1) imposes infringement liability for supplying a "substantial portion" of components without any "commodity" or "especially adapted" restrictions. And § 271(f)(1) mandates that the supplier engage in active inducement, rather than merely supplying component(s) with subjective knowledge and intent, as required in § 271(f)(2). *Compare* 35 U.S.C. § 271(f)(1), *with* 35 U.S.C. § 271(b).

The legislative history confirms that § 271(f)(1) was enacted to impose liability for a type of induced infringement, mirroring § 271(b). Section 271(f)(2), meanwhile, was enacted to impose liability for a type of contributory infringement, mirroring § 271(c). 130 Cong. Rec. H10,522, H10,525-26 (daily ed. Oct. 1, 1984) (statement of Rep. Kastenmeier) (stating that the language of § 271(f)(1) was "drawn from existing subsection 271(b) of the patent law, which provides that whoever actively induces patent infringement is liable as an infringer," while the language of § 271(f)(2) came "from existing section 271(c) of the patent law, which governs contributory infringement").

This drafting relationship between § 271(f)(1) and § 271(b) indicates that the supply of just one component may, in some circumstances, give rise to infringement liability under § 271(f)(1). For product claims, for example, § 271(b) infringement may occur where a party induces another to merely "install[] the *final part* and thereby complete[] the claimed invention . . . ." *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1305-06 (Fed. Cir. 2012) (en banc) (emphasis added), *rev'd on other grounds*, 134 S. Ct. 2111 (2014). The absence of a minimum, numerical "component" threshold in § 271(f)(1) is thus supported by analogy to its counterpart statute, § 271(b), where induced infringement liability of product claims may occur based on the addition of a single "part."

Further, the legislative history of § 271(f) imparts no talismanic significance to the number of supplied components. *See generally* 130 Cong. Rec. at H10,525-26. Considering the differences in purpose of its two sub-sections, the overall statutory scheme of § 271(f) thus does not draw any rigid, quantitative lines. The legislative history, however, does identify the "commodity" status of a component as a relevant factor for courts to consider as part of an infringement analysis:

> Under paragraph (f)(1) the components *may be staple articles or commodities of commerce* which are also suitable for substantial non-infringing use, but under paragraph (f)(2) the components *must be especially made or adapted for use* in the invention.

Id. at H10,526 (emphases added).

Finally, the use of the plural language "such components" in § 271(f)(1) and the singular language "any component" in § 271(f)(2) does not suggest, much less require, a different result. The Dictionary Act, in its first two interpretive principles, states that "words importing the singular include and apply to several persons, parties, or things," and that "words importing the plural include the singular," unless the context indicates otherwise. 1 U.S.C. § 1. Here, the context does not suggest otherwise, since the sub-sections of § 271(f) are directed to different types of infringement, i.e., induced and contributory. Absent a clear mandate for the supply of at least two components, the Dictionary Act supports an interpretation of "a substantial portion of the components" as encompassing a "portion" that consists of only a single component. *See Bruce v. Samuels*, 136 S. Ct. 627, 632 n.4 (2016) (citing the Dictionary Act, 1 U.S.C. § 1, in support of its conclusion that the use of the plural "fees" in a statute did not affect its opinion that the statute as a whole was directed to a singular, per-case approach to filing-fee payments under 28 U.S.C. § 1915(b)(2)).

4. The Court's Decision in *Microsoft* Does Not Support an Exclusively Numerical Infringement Analysis

This Court's decision in *Microsoft*, which offered a footnote discussion of § 271(f)(1) and (f)(2), does not mandate that § 271(f)(1) be interpreted as requiring an exclusively numerical analysis. *See* 550 U.S. at 454 n.16. Although the footnote

acknowledges a difference in the quantity that *must* be supplied under each provision, it also acknowledges that § 271(f)(1) *may apply* to the supply of a single component:

> Our analysis, while focusing on § 271(f)(1), is equally applicable to § 271(f)(2). While the two paragraphs differ, among other things, on the quantity of components that must be "supplie[d] . . . from the United States" for liability to attach, that distinction does not affect our analysis. Paragraph (2), *like (1)*, covers only *a "component"* amenable to "combination." Paragraph (2), *like (1)*, encompasses only the "suppl[y] . . . from the United States" of *"such [a] component"* as will *itself* "be combined outside of the United States."

Id. (alterations in original) (emphases added) (citations omitted).

The Court also addressed § 271(f)(1) and (f)(2) in a consistent manner in a later footnote, where it concluded that both paragraphs provide for broader infringement liability than necessary to close the *Deepsouth* loophole. Again, the Court did not express any numerical requirement for infringement under § 271(f)(1):

> While Deepsouth exported kits containing *all* the parts of its deveining machines, § 271(f)(1) applies to the supply abroad of "all or a substantial

> portion of" a patented invention's components. And § 271(f)(2) applies to the export of even a single component if it is "especially made or especially adapted for use in the invention and not a staple article of commodity of commerce suitable for substantial noninfringing use."

Id. at 458 n.18.

These footnote discussions admittedly are dicta because the Court's analysis was not focused on the significance of how many components were supplied. They however support construing § 271(f)(1) as potentially imposing infringement liability for the supply of a single "component" of a patented invention, so long as that component is a "substantial portion of the components of [the] patented invention," and the supplier has also "actively induce[d] the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States." 35 U.S.C. § 271(f)(1).

B. Whether a Party Has Supplied a "Substantial Portion of the Components of a Patented Invention" Should Involve Consideration of the Significance of the Supplied Component(s) Based on Claim Construction Principles

It is a truism that a patent claim is interpreted in view of the specification of which it is

a part. *See, e.g., United States v. Adams*, 383 U.S. 39, 48-49 (1966) ("[I]t is fundamental that claims are to be construed in the light of the specifications and both are to be read with a view to ascertaining the invention." (citations omitted)). This principle should guide the analysis of whether an accused infringer has supplied a "substantial portion of the components of a patented invention" under § 271(f)(1).

An analysis rooted in interpreting claims in view of their supporting disclosure will demonstrate that not all components of a patented invention are created equal. The text of § 271(f) embodies this principle by, for example, exempting the supply of "commodity" components from infringement under § 271(f)(2), while potentially encompassing such conduct as infringing under § 271(f)(1) by omitting that restriction. *See* 130 Cong. Rec. at H10,526.

An analysis of the claimed invention in view of the patent specification provides the best overall guide to whether a particular component rises to the qualitative standard of being a "substantial portion of the components of a patented invention." 35 U.S.C. § 271(f)(1); *see Bates v. Coe*, 98 U.S. 31, 38 (1878) ("[I]t is proper in all cases to refer back to the descriptive portions of the specification to aid in solving the doubt or in ascertaining the true intent and meaning of the language employed in the claims . . . ."); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc) ("[C]laims 'must be read in view of the specification, of which they are a part.' . . . [T]he specification 'is always highly relevant to the claim construction analysis. Usually,

it is dispositive; it is the single best guide to the meaning of a disputed term.'" (citations omitted)).

The patent specification will often identify the "components" of a patented invention that represent the essential features of the invention, and that are therefore of significance and more likely to be a "substantial portion of the . . . patented invention" under § 271(f)(1). Likewise, the patent specification will often identify "standard components" that may be used to complete the invention, but which, supplied alone, are much less likely to be a "substantial portion" of the components of a patented invention. *See, e.g.*, *Quanta Comput., Inc. v. LG Elecs., Inc.*, 553 U.S. 617, 634 (2008) ("The Intel Products embody the *essential features of the LGE Patents* because they carry out all the inventive processes when combined, according to their design, with *standard components*." (emphases added)).

This Court's decision in *Quanta* provides useful guidance for evaluating the relative importance of components of a patented invention for a § 271(f)(1) analysis. *Compare id.* at 621 ("In this case, we decide whether patent exhaustion applies to the sale of *components of a patented system* that must be combined with *additional components* in order to practice the patented methods." (emphases added)), *with* 35 U.S.C. § 271(f)(1). Although the issue in *Quanta* was whether downstream sales exhausted rights in method claims, the analysis involved identifying essential features of the claimed inventions as embodied in the articles sold.

In *Quanta*, the Court evaluated a claimed invention that included the components of an inventive microprocessor or chipset (the "Intel Products") as well as a conventional memory and a conventional data bus. *Quanta*, 553 U.S. at 623, 633-34. Upon reviewing the asserted patents, the Court concluded that the Intel Products constituted the "essential features" of those patents. *Id.* at 633-35. The Intel Products "substantially embodied" the patents because "the inventive part of the patent is not the fact that memory and buses are combined with a microprocessor or chipset; rather, it is included in the design of the Intel Products themselves and the way these products access the memory or bus." *Id.* ("Everything inventive about each patent is embodied in the Intel Products."). Thus, the Court held that Quanta's purchase of the Intel microprocessors exhausted the patent rights that LG had licensed from Intel, even though Quanta needed to combine the Intel microprocessors with other conventional components to complete the claimed invention. *Id.* at 624-25, 633-35.

This guidance on when particular component(s) "substantially embody" a claimed invention is instructive for determining when a component is a "substantial portion" of the components of a claimed invention under § 271(f)(1).

Consider, for example, a hypothetical claim with three components: (1) an innovative microprocessor, (2) a conventional memory, and (3) a conventional data bus. Under a strictly numerical interpretation of "substantial portion" in § 271(f)(1) that requires the supply of multiple components, one

who supplies only the innovative microprocessor would never infringe. Such a result would create a stark inconsistency with this Court's holding in *Quanta*. *Id.* at 637 (concluding that "making" the Intel Products was, for exhaustion purposes, "no different from making the patented article itself").

Courts should also look to the specification as the best guide for providing context for the relative significance of the supplied component(s). For example, supplied component(s) may be important because they embody the "essential features" of the invention, or they may be important merely in the sense that the patented invention might not "work" without them. The specification will often distinguish between these degrees of significance. In *Quanta*, for example, the patented invention likely would not have functioned without the conventional data bus. *Id.* at 635. But this does not mean that the bus is necessarily a "substantial portion" of the claimed invention and does not elevate the bus to equal standing with the Intel Products, which, by themselves, embodied "[e]verything inventive" about the patented invention. *Id.* at 633-35 ("Naturally, the Intel Products cannot carry out [their] functions unless they are attached to memory and buses, but those additions are standard components in the system, providing the material that enables the [Intel Products] to function.").

Consistent with the guiding principle that claims are interpreted in view of the specification of which they are a part and the Court's analysis in *Quanta*, the Court should hold that § 271(f)(1) requires consideration of the importance of the

supplied component(s) relative to the applicant's disclosure in his specification. Such an analysis will provide accurate insight into whether the supplied component(s) rise to the level of a "substantial portion of the components of a patented invention." 35 U.S.C. § 271(f)(1). As part of that analysis, courts can also consider the number of supplied components, but that number should not be a gating or determinative factor. Were the Court to hold otherwise and adopt a rigid numerical test, a party could avoid § 271(f)(1) infringement despite supplying an inventive component that is effectively "no different from [supplying] the patented article itself." *Quanta*, 553 U.S. at 637; *see also Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923, 1933 (2016) (rejecting a rigid test that would permit "someone who plunders a patent" to escape comeuppance).

C. A Bright-Line Test for Infringement Under 35 U.S.C. § 271(f)(1) Based on the Number of Supplied Components Is Inconsistent with the Court's Recent Precedent

Over the past decade, this Court has consistently guided judicial interpretation of the U.S. patent laws away from rigid, talismanic tests that conflict with flexible statutory language. This case presents another version of the same issue, asking the Court to consider whether supplying "a single, commodity component of a multi-component invention from the United States is an infringing act under 35 U.S.C. § 271(f)(1)." *See* Pet. at i.

In *KSR International Co. v. Teleflex Inc.*, for example, this Court criticized the "rigid and mandatory formula[]" of the Federal Circuit's teaching, suggestion, or motivation test for obviousness. 550 U.S. 398, 415 (2007). In rejecting the Federal Circuit's application of its obviousness test, this Court reiterated the proper "expansive and flexible" approach to obviousness permitted by the statute, 35 U.S.C. § 103. *Id.*

Likewise, this Court rejected as "unduly rigid" the Federal Circuit's standard for awarding attorney's fees in exceptional cases under 35 U.S.C. § 285. *Octane Fitness, LLC v. ICON Health & Fitness, Inc.*, 134 S. Ct. 1749, 1755-56 (2014). The framework imposed by the Federal Circuit conflicted with the flexible statutory language of § 285, which provides district courts with leeway to exercise their equitable discretion when determining whether cases rise to the level of "exceptional." *Id.*

And just this year, relying on *Octane Fitness*, the Court rejected as "unduly rigid" the Federal Circuit's test for enhanced damages under 35 U.S.C. § 284. *Halo*, 136 S. Ct. at 1932. The Court criticized the imposition of a showing of objective recklessness for enhanced damages because it "[made] dispositive the ability of [an] infringer to muster a reasonable (even though unsuccessful) defense . . . , even if he did not act on the basis of the defense or was even aware of it." *Id.* at 1933 (disapproving of a standard under which "someone who plunders a patent—infringing it without any reason to suppose his conduct is arguably defensible—can nevertheless escape any comeuppance under § 284 solely on the

strength of his attorney's ingenuity"). The Court thus confirmed the statute's grant of discretion to district courts to award enhanced damages, unburdened by the mechanistic, rigid test previously employed.

Consistent with these recent admonitions to avoid bright-line rules, the Court should decline to impose a strictly numerical standard for infringement under § 271(f)(1). Such a test would improperly impose an "inflexible framework onto statutory text that is inherently flexible." *Octane Fitness*, 134 S. Ct. at 1756. As it did with respect to the obviousness, attorney's fees and enhanced damages statutes, this Court should require a flexible analysis for determining whether an accused infringer's actions meet the standards of § 271(f)(1), i.e., whether an accused infringer has supplied a "substantial portion" of the claimed invention's components and actively induced a combination that would infringe if it occurred in the United States.

D. A Qualitative Analysis under § 271(f)(1) Is Consistent with the Presumption that U.S. Law Has No Extraterritorial Application

Any concern that the Federal Circuit's interpretation of § 271(f)(1) runs afoul of the presumption against the extraterritorial application of U.S. law is unfounded.

It is undisputed that patent laws may not directly regulate acts beyond the territorial limits of the United States. This proposition was applied in

Deepsouth, where the patent owner sought to extend an injunction to acts outside of the United States. It is also undisputed that Congress responded to that decision by changing the law to specifically address the harm to patent owners presented in the *Deepsouth* case.

Observing the territorial limits of U.S. laws, Congress enacted § 271(f)(1) with deliberately and carefully crafted language to penalize certain domestic conduct in support of extraterritorial acts rather than the extraterritorial acts themselves. Thus, the statute addresses the domestic act of "supplying" components from the United States "to actively induce the combining of such components outside the United States." The inducement is limited to combining "that would infringe the patent if such combination occurred within the United States."

This statutory scheme was not criticized in *Microsoft* as an extraterritorial application of U.S. law. Rather, that decision criticized the "expansive interpretation" of the statute to broaden the meaning of "components" to include software independent of its embodiment. The consequence of such an interpretation, according to the Court, would permit a single domestic supply of the software to be the basis of repeated infringements with every foreign act of copying and installing the software on computers abroad. *Microsoft*, 550 U.S. at 456. Such activity, the Court concluded, is governed by foreign law, not U.S. law.

An interpretation of § 271(f)(1) that requires a qualitative appraisal of what is supplied from the United States is readily distinguishable from the interpretation criticized in *Microsoft*. Far from an "expansive" interpretation of the statute, this interpretation hews closely to the provision's text and legislative history.

Interpreting § 271(f)(1) to require a qualitative assessment, in addition to considering the number of supplied components, also reflects the practical considerations of applying the law to patent practice and ensures that courts will not lightly impose worldwide infringement liability on accused infringers. Under a qualitative assessment, courts should consider all relevant factors regarding an accused infringer's conduct in supplying component(s) of a patented invention abroad. Among other things, a court could consider whether: (1) the portion of component(s) supplied by an accused infringer is "substantial" in light of the patent claims and specification; (2) the component(s) are commodities; and (3) the accused infringer actively induced the extraterritorial combination in a manner that would infringe if such combination occurred in the United States. By conducting this comprehensive analysis, courts will be able to ensure that worldwide damages for § 271(f)(1) infringement are not lightly granted, and also have the authority to impose § 271(f)(1) infringement liability in particular cases in which a single (and perhaps commodity) "component" is supplied by an accused infringer.

IV. CONCLUSION

AIPLA urges the Court to hold that an infringement determination under § 271(f)(1) requires an analysis of all relevant factors, including (1) whether the portion of component(s) supplied by an accused infringer is "substantial" in light of the patent claims and specification, both qualitatively and quantitatively; (2) whether the component(s) are commodities; and (3) whether the accused infringer actively induced the combination of the supplied component(s) outside the United States in a manner that would infringe if such combination occurred in the United States.

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September 8, 2016

ECORD
AND
BRIEFS

No. 14-1538

IN THE

Supreme Court of the United States

LIFE TECHNOLOGIES CORPORATION, *et al.*,

Petitioners,

v.

PROMEGA CORPORATION,

Respondent,

On Writ of Certiorari to the United States Courts of Appeals for the Federal Circuit

BRIEF OF BUNDESVERBAND DER DEUTSCHEN INDUSTRIE E.V., DEUTSCHER INDUSTRIE- UND HANDELSKAMMERTAG E.V., HENNING GROSSE RUSE-KHAN, AND PAUL L.C. TORREMANS AS *AMICI CURIAE* IN SUPPORT OF PETITIONERS

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QUESTION PRESENTED

Whether a supplier can be held liable under 35 U.S.C. § 271(f)(1) for providing "all or a substantial portion of the components of a patented invention" from the United States when the supplier ships for combination abroad only a single commodity component of a multi-component invention.

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INTEREST OF *AMICI CURIAE*[1]

The Federation of German Industries – formally, *Bundesverband der Deutschen Industrie e.V*, or BDI – is the umbrella organization for all industrial businesses and industry-related service providers in Germany. It represents 36 industrial-sector federations and has 15 regional offices in Germany and offices abroad in Brussels, London, Tokyo, and Washington, D.C. BDI speaks for more than 100,000 private enterprises employing some eight million people.

Besides its activities on the national and European level, BDI also communicates the interests of German industry to governments internationally. It seeks to maintain the openness and attractiveness to German businesses of important international markets like the United States, in which countless German companies operate. It regularly has sought to vindicate the interests of German business in the courts of the United States.

German businesses and industries are among the United States' most frequent and reliable economic partners. German industry contributes substantially to the U.S. economy through investment in the U.S. and commercial dealings with U.S. companies. In 2012, the cumulative value of all

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[1] This brief was not authored in whole or in part by counsel for a party. No person other than the *amicus* made a monetary contribution intended to fund the preparation or submission of this brief. All parties have consented to the filing of this brief.

foreign direct investment in the U.S. was $2.6 trillion – equivalent to fully 16% of the U.S. gross domestic product. Investment by German business in the U.S. market exceeded $199 billion at the end of 2012. German investment is highly sought after by state and local governments across the United States, which seek to create well-paid jobs for their citizens. German companies employ 640,000 American workers, 10.5% of the 6.1 million in-sourced jobs in the United States in 2013.

The Association of German Chambers of Industry and Commerce (Deutscher Industrie- und Handelskammertag e.V., (DIHK)) is the umbrella organization of Germany's 79 regional Chambers of Industry and Commerce, representing by law the interests of more than 3.6 million commercial enterprises of all sizes in Germany. Further, it supervises and coordinates the German Chamber Network (Auslandshandelskammern (AHKs)) with 130 locations in 90 countries worldwide, including the United States.

Dr. Henning Grosse Ruse-Khan is Lecturer at the University of Cambridge where he teaches intellectual property (IP) and international economic law. He is a Fellow of King's College (Cambridge) and the Max Planck Institute on Innovation and Competition in Munich. Dr Ruse-Kahn has authored several articles and a recent monograph on the interface between IP protection and international trade law. He has a longstanding interest in the careful development of national IP rules in light of international trade law.

Dr. Paul L. C. Torremans is a professor of intellectual property law at the School of Law, University of Nottingham, United Kingdom. He has published widely regarding intellectual property law in the UK and the relationship between intellectual property law and private international law.

This case considers the circumstances in which a supplier's shipment of a commodity component from the United States to another country for assembly overseas can serve as the basis for a patent-infringement judgment based on sales overseas of the final products. Both BDI and DIHK are directly interested in maintaining institutions that support the free trade of goods and services across national borders. Among other things, that includes the facilitation of manufacturing that involves cross-border supply chains. The decision of the court of appeals threatens to extend American patent law to govern economic activity that occurs almost entirely in other countries, creating major obstacles to the routine inclusion of United States firms and facilities in multinational manufacturing and supply arrangements. BDI and DIHK have a strong interest in ensuring that this Court understands the difficulties that the decision poses for existing patterns of cross-border supply chains. All of the amici are interested in the development of nation-level rules for intellectual property that give due weight to the concerns of private international law. We hope this brief will help the Court understand the disruption that would follow a validation of the decision of the court of appeals.

SUMMARY OF ARGUMENT

1. The thrust of modern legal systems has been to facilitate trade and commerce among developed nations on a free and even playing field, limiting as much as possible the relevance of the home nations and locations of competing commercial enterprises. In part, that is reflected in a regime in which developed nations ordinarily limit their trade regulations to activity inside their borders. The same intuition supports this Court's vigilant recognition that Congress does not routinely adopt statutes intended to apply to foreign manufacturing and commerce.

The decision of the court of appeals heedlessly throws a wrench into that framework, interfering with the most routine and innocent trade in off-the-shelf components involved in cross-border supply and manufacturing chains. That decision places a conspicuous black mark on United States firms – signaling to foreign enterprises that they need to think twice before investing in or establishing manufacturing facilities in the United States.

2. This Court has justified the presumption against extraterritoriality in part as limiting the intrusion of United States law into the legitimate domains of foreign sovereigns. The Court also has recognized that extensions of United States law are particularly problematic in policy-laden areas like patent law, in which different nations often balance the competing considerations differently.

The case at hand poses a stark example of such a conflict. Specifically, when it comes to the propriety of aggressive patent litigation, the sensibilities of United States lawmakers differ sharply from those of policymakers in the European Union. Where United States law generally is tolerant of that activity, on the theory that it ensures a proper return on the investment in the patented invention, European courts and the European Commission have been much more worried that aggressive exercise of intellectual-property rights can undermine robust competition in important markets. Thus, the very remedy that the Federal Circuit has approved here likely would be regarded in Europe as an anti-competitive act, to be prohibited under basic principles of competition law in the European Union.

It would be one thing if the United States Congress acted to press the point. It is quite another for the judiciary to press the conflict itself, building on inferences from a statute that is ambiguous at most. The simplest response is for this Court to reject the analysis of the court of appeals, confining United States patent law to its proper territorial bounds.

ARGUMENT

I. The Decision of the Court of Appeals Complicates Routine Business Planning by Raising the Costs of Including United States Firms in Cross-Border Supply and Manufacturing Chains.

Time after time, the Court in recent years has emphasized the "wisdom of the presumption against extraterritoriality," *Morrison v National Australia Bank Ltd.*, 561 U.S. 247, 261 (2010), applying it "with particular force in patent law," *Microsoft Corp. v AT&T Corp.*, 550 U.S. 437, 455 (2007). The failure of the court of appeals to give that presumption substantial weight led it to a decision that intrudes markedly into the routine business arrangements necessary for firms inside and outside the United States to cooperate in the manufacturing and supply of products "in today's highly interdependent commercial world," *F. Hoffmann-La Roche Ltd. v. Empagran S.A.*, 542 U.S. 155, 165 (2004).

While it stands, the decision below raises the possibility that even trivial involvement by a United States facility in a supply or manufacturing chain will expose the enterprise to liability under United States patent law – without regard to the patent status of the invention in the countries where the products are assembled, sold, or used. Accordingly, unless this Court rejects the reasoning of the court of appeals, the decision will require planners considering whether to involve a United States firm or facility in such arrangements to step back with

trepidation, to act with particular care before taking that step.

The blithe analysis of the court of appeals suggests that it did not understand the stumbling blocks that its decision creates for routine and wholly innocent business activity, such as the commonplace integration of a United States firm or facility into a multinational supply and manufacturing chain. Consider, for example, a German firm selling products that it long has sold in its home country, justifiably confident that they infringe no patents effective in Germany. Under the analysis of the court of appeals, if that firm decided to invest in a company owning a United States manufacturing facility, it could not use that United States facility to produce even a commonplace off-the-shelf component without taking account of the possibility that its product sales in its home country would become actionable as infringement of a United States patent.

Shifting production of a single off-the-shelf component from a British facility to a United States facility is in every important way a trivial act – but the court of appeals has made the attendant legal risk considerable: subjecting the investor to the full regimen of patents granted by the United States Patent and Trademark Office, including the remedies for infringements of those patents that arise under the Patent Act of the United States. In effect, the decision places a black mark on United States facilities, subjecting their use to legal costs and risks from which investors otherwise would be free.

The same problems would arise if a German firm considered establishing its own manufacturing facility in the United States, something hitherto quite common. *E.g.*, Jack Ewing, *Bet on U.S. Pays off for Germany's Carmakers*, N.Y. Times, Feb. 4, 2013; Stanley Reed & Melissa Eddy, *BASF, an Industrial Pillar in Germany, Leans Abroad*, N.Y. Times, Oct. 24, 2014. If the firm used the United States facility even for a single off-the-shelf component, the firm would risk the subjection of its world-wide sales to the vagaries of United States patent law, even if the holder of the patent in question had not bothered to obtain patent protection in any country other than the United States.

The German firm of course ***could*** proceed to establish a United States manufacturing facility, but it would face the considerable risk that transportation of components for that facility for use in overseas assembling facilities would carry United States patent law with them, "infecting" the products of those overseas facilities with United States law. To be sure, the German firm might avoid U.S. patent liability if it stopped using the facility's components promptly upon learning of a patent claim, but that possibility simply underscores the inability of the foreign firm to include a United States facility reliably in long-term planning. The logical response would be to limit the production of the United States facility to wholly domestic uses, a balkanization of supply chains that benefits neither country's economy or workforce.

What makes this extension of United States so problematic is the triviality of the requisite link. We live in a world in which finished products are likely to consist of thousands of components, manufactured and designed at different times and places, fabricated into sub-assemblies at different times and places, and transported for further assembly, manufacture, and distribution around the globe. *See* Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 Texas L. Rev. 1991, 1992-93 (2007). Who could reasonably expect that United States patent law would apply to any sale ***worldwide*** of a product solely because of the fortuity that a single off-the-shelf component turns out to have originated in the United States? Without a more substantial connection to United States economic activity, the application of United States law in that context is more likely to seem a trap for the unwary than a reasoned delineation of national competition policy. *Cf. eBay Inc. v MercExchange LLC*, 547 U.S. 388, 396-97 (2006) (Kennedy, J., concurring) (noting problems in applying traditional patent remedies to multi-component products); Lemley & Shapiro, *supra*, 85 Texas L. Rev. at 2025-35 (discussing problematic application of United States patent law in that context).

Indeed, the link to economic activity in the United States is so tenuous that it well might bring the Patent Act into conflict with the Nation's existing obligations under the treaties that govern international trade. For example, the Paris Convention of 1883 provides that each country to the Convention shall issue patents that are

"independent of patents obtained for the same invention in other countries," Paris Convention for the Protection of Intellectual Property art. 4bis, Mar. 20, 1883, which is ordinarily understood to mean that "the territorial scope of national intellectual property statutes and the rights granted under those states are restricted to the territory of the State concerned," J.J. Fawcett & P.L.C. Torremans, Intellectual Property and Private International Law 688 (2nd ed. 2011). For the same reason, extra-territorial use of United States patent law to restrict assembly and manufacturing activity in other countries is at best of doubtful legitimacy under GATT and TRIPS. *See* General Agreement on Tariffs and Trade 1994 arts. XI, XX(d), Apr. 15, 1994, 1867 U.N.T.S. 187 (1994); Agreement on Trade-Related Aspects of Intellectual Property Rights art. 41(1), Apr. 15, 1994, 1869 U.N.T.S. 299 (obligation to ensure that IP enforcement procedures do not "create barriers to legitimate trade"). *See generally* Henning Grosse Ruse-Khan, The Protection of Intellectual Property in International Law ch. 11 (2016) (discussing interplay between GATT and IP enforcement).

As explained above, amici are directly interested in the free and untrammeled flow of component materials and finished products across national boundaries, trade that redounds to the benefit of all countries involved. The decision of the court of appeals creates an unfortunate roadblock hindering that activity.

II. The Decision of the Court of Appeals Intrudes on the Sovereign Authority of Foreign Nations in an Area in Which Differing Policy Judgments Are Common.

The Court also has emphasized the role that the presumption against extraterritoriality plays in respecting "the legitimate sovereign interests of other nations," fostering interpretations that "hel[p] the potentially conflicting laws of different nations work together in harmony." *F. Hoffmann-La Roche*, *supra*, 542 U.S. at 164. That concern is particularly salient in this context, because "foreign law may embody different policy judgments about the relative rights of inventors, competitors, and the public in patented inventions." *Microsoft*, *supra*, 550 U.S. at 455 (brackets and internal quotation marks omitted) (quoting Brief for United States as *Amicus Curiae* 28, No. 05-1056, *Microsoft Corp. v AT&T Corp.*). In particular, the case involves an area in which the sovereign judgments about competition policy are quite different. *See F. Hoffmann-La Roche*, *supra*, 542 U.S. at 167 (noting instances in which "this Court has found" differences of antitrust policy sufficiently substantial to raise a "practical likelihood of interference with the relevant interests of other nations").

The specific problem here is that the European Union has been much more concerned than United States courts about the possibility that litigation to enforce patents might interfere with competition. It is inherent in the grant of a patent, of course, that it provides the holder some exclusive

control over the invention described, which readily can create a monopoly with regard to related technologies. The grant of that control raises obvious risks that the patentholder will exercise that control abusively, in ways that contradict the purposes for which the patent was granted. Although United States courts have not ignored those concerns, *e.g.*, *Halo Electronics v Pulse Electronics, Inc.*, 136 S. Ct. 1923, 1937-38 (2016) (Breyer, J., concurring); *eBay Inc. v MercExchange LLC*, 547 U.S. 388, 396-97 (2006) (Kennedy, J., concurring), it is fair to say that competition authorities in the European Union have shown much greater concern that vigorous exercise of patent rights might diminish market competition.

From the perspective of European policymakers, the concerns arise out of Article 102 of the Treaty on the Functioning of the European Union (TFEU), which provides that "the abuse * * * of a dominant position within the internal market or a substantial part of it shall be prohibited." Consolidated Version of the Treaty on the Functioning of the European Union art. 102, 2012 O.J. C 326/47, at 89. Applying that principle broadly, the European Court of Justice explains that it aims "to protect not only the interests of competitors or of consumers, but also the structure of the market and, in doing so, competition as such." *T-Mobile Netherlands BV*, Case C-8/08, [2009] E.C.R. I-04,529, ¶ 63. Thus, although the rights of patentholders in the EU are in many respects similar to those of patentholders in the United

States,[2] the dominating interest in ensuring effective competition has motivated European courts to develop a well-established doctrine under which "the exercise of an exclusive right linked to an intellectual-property right * * * may * * * involve abusive conduct for the purposes of Article 102." *Huawei Technologies Co. v ZTE Corp.*, Case C-170/13, [2015] E.C.R. I_____ (delivered July 16, 2015), ¶ 47.

In Europe, the ability of a patentholder to exercise a patent is linked directly to the patentholder's market power. Thus, although it is not inherently abusive for a patentholder to insist on its exclusive rights, European law often would obligate a patentholder with a dominant market position to grant licenses to its patent or otherwise refrain from activity that would be routinely permissible in the United States. *See* Patent Law: A Handbook on European and German Patent Law § 9, at 852-53 (M. Haedicke & H. Timmann eds. 2014) [hereinafter Haedicke & Timmann] (summarizing German doctrine). Judicial limitation of a patentholder's right to seek damages or injunctive relief has been routine in German courts for decades. *See* Haedicke & Timmann, *supra*, § 9, at 853-58 (discussing decisions of the German Federal Court of

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[2] *See generally, e.g.*, Alexander Harguth, Patents in Germany and Europe chs. 5, 12 (2011) (discussing procedures for issuing and enforcing patents in Germany); Patent Law: A Handbook on European and German Patent Law §§ 2, 10 (M. Haedicke & H. Timmann eds. 2014) (discussing the amenability of inventions to patent protection and the consequences of patent infringement).

Justice). It has become equally commonplace at the European level. *E.g.*, *AB Volvo v Erik Veng (UK) Ltd.*, Case 238/87, [1988] E.C.R. 6211, ¶ 9 (explaining that exclusive rights to design of automotive parts would be abused by "arbitrary refusal to supply spare parts to independent repairers, the fixing of prices for spare parts at an unfair level or a decision no longer to produce spare parts for a particular model"); *Radio Telefis Eireann (RTE) and Independent Television Publications Ltd (ITP) v Commission of the European Communities*, Case 241/91, [1995] E.C.R. I-00,743, ¶¶ 50-58 (affirming conclusion that radio and television networks abused copyright by failure to provide access to complete programming guide); *IMS Health GmbH &amp Co. OHG v NDC Health GmbH &amp Co. KG*, Case C-418/01, [2004] E.C.R. I-05,039, ¶ 38 (summarizing case law concluding that copyright holder abuses position by refusing access whenever refusal prevents "the emergence of a new product for which there is a potential consumer demand, that it is unjustified and such as to exclude any competition on a secondary market").

In recent years, the European Commission has been especially vigilant in this area, intervening to limit high-profile litigation that it regards as an anticompetitive abuse of intellectual property rights. *E.g.*, Commission Decision No. AT.39985 (*Motorola*), slip op. ¶¶ 510-15 (Apr. 4, 2014) (holding that Motorola violated Article 102 by seeking an injunction against Apple in German courts, although Apple had not obtained a license to use the relevant patent, because Apple professed itself "not unwilling to enter a licensing agreement on [fair, reasonable,

and non-discriminatory] terms and conditions"); Commission Decision No. AT.39939 (*Samsung*), slip op. ¶¶ 62, 122 (Apr. 29, 2014) (consent decree under which "Samsung will not be able to seek injunctions on the basis of [specified patents] against any potential licensee willing to entire into a license on [fair, reasonable, and non-discriminatory] terms and conditions," responding to Commission's contention that Samsung sought injunctive relief with a view to "inducing Apple to accept disadvantageous licensing terms, compared to those which Apple may have accepted in the absence of injunctions being sought").

None of the decisions of the Commission or the Court of Justice to date have considered the specific issue before the Court: use of the shipment of an off-the-shelf component into the EU as leverage for extending the coverage of a United States patent to European commerce. But the risks to competition from the Federal Circuit decision are obvious. Consider a manufacturer in Germany with two potential suppliers: one is a German facility affiliated with a United States firm that has a patent on the final product in the United States (but not in Germany); the other is affiliated with a United States manufacturing facility. The supplier affiliated with the patent holder could use the United States patent as a device for preventing competition for the supply of commodity parts in Germany – in the absence of any intellectual property enforceable in Germany. Given the vigor of the actions of the Commission, European Court of Justice, and the German Federal Court of Justice discussed above, it is reasonable to expect that the

Commission or a European court might hold it abusive to leverage the United States patent into a monopoly in Germany.

A converse hypothetical brings the likely European response into perspective. Consider a European manufacturer holding a patent that continues in force in Europe but has expired in the United States, attempting to enforce a judgment issued on the basis of that patent that awards damages for sales in the United States, based solely on the use of a single Europe-sourced off-the-shelf component. Surely that judgment would trouble both United States courts and competition authorities in the Executive Branch. Should we expect European authorities to be any less troubled?

Indeed, because the decision of the court of appeals justifies an award based on the sales of products wholly assembled and manufactured abroad, the decision presents the prospect of conflicting judgments: a European judgment or Commission ruling following *Huawei*, *Motorola*, and *Samsung*, forbidding patent litigation that provides a dominant position in products assembled and sold entirely in Germany, blocking a judgment of a United States court awarding monetary damages for the German assembly and sales, based on the inclusion of an off-the-shelf United States-sourced component in the Germany product.

It would be one thing if the United States Congress had gone out of its way to challenge foreign competition authorities. Presumably United States Courts would have to leave that problem for resolution by the Executive Branch. But as this Court knows all too well that has rarely been the

practice of Congress. *See, e.g., F. Hoffmann-La Roche, supra*, 542 U.S. at 162-73 (concluding that Congress did not intend the Foreign Trade Antitrust Improvements Act of 1982, 15 U.S.C. § 6a, to extend to foreign commerce). Rather, as the presumption against extraterritorial application reflects, "legislation of Congress, unless a contrary intent appears, is meant to apply only within the territorial jurisdiction of the United States.'" *Morrison v National Australia Bank Ltd.*, 561 U.S. 247, 255 (2010) (quoting *EEOC v Arabian American Oil Co.*, 499 U.S. 244, 248 (1991) (quoting *Foley Bros. v Florida*, 336 U.S. 281, 285 (1949))).

CONCLUSION

The decision of the court of appeals extends United States patent law far into the realm of the commerce of other nations, allowing the shipment of a single off-the-shelf component to make wholly foreign assembly, manufacture, and sale directly subject to the United States patent laws. That extension not only complicates the routine and innocent development of multinational supply and manufacturing arrangements, it grants patentholders a litigation tool that apparently conflicts with the competition law and policy of the European Union.

Amici respectfully submit that the Court should reverse the decisions of the court of appeals.

Respectfully submitted,

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RECORD AND BRIEFS

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IN THE

Supreme Court of the United States

LIFE TECHNOLOGIES CORPORATION, *et al.*,

Petitioners,

v.

PROMEGA CORPORATION,

Respondent.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF FOR INTELLECTUAL PROPERTY OWNERS ASSOCIATION AS *AMICUS CURIAE* IN SUPPORT OF NEITHER PARTY

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INTEREST OF *AMICUS CURIAE*

Amicus curiae Intellectual Property Owners Association (IPO) is a trade association representing companies and individuals in all industries and fields of technology who own or are interested in intellectual property rights.[1] IPO's membership includes about 200 companies and over 12,000 individuals who are involved in the association either through their companies or as inventor, author, executive, law firm, or attorney members. Founded in 1972, IPO represents the interests of all owners of intellectual property. IPO regularly represents the interests of its members before Congress and the U.S. Patent and Trademark Office and has filed *amicus curiae* briefs in this Court and other courts on significant issues of intellectual property law. The filing of this brief was approved by the IPO Board of Directors. A list of the IPO board members can be found in the Appendix.[2]

IPO favors a robust patent system that rewards innovators with strong and enforceable patent protection for their inventions. An essential part of a robust patent system is ensuring that infringers cannot take the value of an invention without appropriate compensation to the owners of the patent. The statute at issue in this case

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1. No counsel for a party authored this brief in whole or in part, and no such counsel or party made a monetary contribution intended to fund the preparation or submission of this brief. No person other than the *amicus curiae* or its counsel made a monetary contribution to its preparation or submission. The parties have consented to the filing of this brief.

2. IPO procedures require approval of positions in briefs by a two-thirds majority of directors present and voting.

was enacted by Congress to plug a serious loophole in the meaningful enforcement of valid U.S. patent rights. The continued closure of this loophole plays an important role in maintaining the enforceability of valid U.S. patent rights. For that reason, IPO submits this brief in support of the Federal Circuit's interpretation of 35 U.S.C. § 271(f)(1).

SUMMARY OF THE ARGUMENT

Under 35 U.S.C. § 271(f)(1), "[w]hoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer." At issue in this case is whether the export of a single component of a patented invention can ever form "a substantial portion of the components of a patented invention" under the statute. In *Promega Corp. v. Life Techns. Corp.*, the Federal Circuit held that, under appropriate circumstances, an accused infringer can be liable for infringement under § 271(f)(1) for supplying (or causing to be supplied) a single component of an invention for combination outside the United States. 773 F.3d 1338, 1353 (Fed. Cir. 2014).

IPO respectfully asks this Court to ratify the Federal Circuit's interpretation of 35 U.S.C. § 271(f)(1) that a single component is not barred as a matter of law from constituting "a substantial portion of the components of a patented invention." Specifically, IPO believes that the

interpretation of "a substantial portion of the components of the patented invention" in the statute should take into account the relative *importance* to the patented invention of the components supplied from the U.S., in addition to the numerical proportion of components provided.[3] In short, the significance to the invention of the component(s) supplied from the U.S. should matter, not just the number of components.

Section 271(f)(1) was passed by Congress to fill a gap in the enforceability of valid U.S. patent rights. Before Section 271(f)(1), an infringer could evade infringement by exporting some or all of the components of the invention and forming the patented combination outside the U.S. Congress crafted section 271(f)(1) to prevent this intentional circumvention of U.S. patent rights while balancing the extraterritorial effect of the statute.

IPO believes the interpretation of section 271(f)(1) proposed by the district court, i.e., requiring the supply of at least two components from the U.S. as a matter of law, is inconsistent with the language of the statute and would lead to illogical results. Under the district court's interpretation, exporting three minor components of a four-component invention would likely infringe, while supplying the single most important component could not. This interpretation would effectively reopen the loophole that Congress intentionally closed with the passage of section 271(f)(1).

Accordingly, IPO believes that, under the appropriate factual circumstances, an accused infringer could be liable

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3. IPO files its amicus brief in support of neither party and takes no position concerning the particular facts of this case.

under § 271(f)(1) for supplying or causing to be supplied from the U.S. a single component of a patented invention that is combined into the infringing combination outside the United States.

ARGUMENT

I. Section 271(f)(1) plays an important role in the enforcement of valid U.S. patent rights.

Congress passed section 271(f)(1) to close the "loophole" created by this Court's decision in *Deepsouth v. Laitram*. 406 U.S. 518 (1972). Section 271(f)(1) prevents third parties from avoiding infringement of a valid U.S. patent by shipping some or all of the components of a multi-component invention from the U.S. to another country and then actively inducing the assembly of those components into the claimed invention.

In *Deepsouth*, the defendant shipped all of the components of the invention from the U.S. and had them assembled abroad knowing full well that the assembled combination infringed the plaintiff's patent. This Court held, however, that assembly outside of the U.S. avoided all liability for infringement. The decision in *Deepsouth* created a clear path for U.S.-based companies to reap the benefits of another's patented invention in the form of offshore sales without compensation or consequence.

Congress enacted section 271(f)(1) to close the enforcement gap created by the *Deepsouth* decision. Congress decided that a company should not be able to avoid infringement by moving its final manufacturing step abroad while supplying components from the U.S.

In closing this loophole, Congress intentionally made the statute broader than the factual situation presented in *Deepsouth*. Unlike in *Deepsouth*, where all of the components were exported from the U.S. to be combined abroad, Congress more broadly prohibited the supply in or from the United States of "all *or a substantial portion* of the components of a patented invention." (emphasis added).

II. Section 271(f)(1) is narrowly tailored to prevent the intentional circumvention of U.S. patent rights.

As enacted by Congress, section 271(f)(1) provides a narrowly tailored cause of action by which a patentee can enforce its U.S. patent rights based on actions in the U.S. that result in the knowing and active inducement of infringement abroad. Active inducement under section 271(f)(1) requires knowledge of the patent and knowledge of the infringing nature of the combined components, thus avoiding the imposition of liability on innocent exporters of components. *See Liquid Dynamics v. Vaughan*, 449 F.3d 1209, 1222 (Fed. Cir. 2006). In addition, section 271(f)(1) requires the supply of component(s) from the U.S., a requirement that excludes from liability manufacturing that takes place entirely outside of the United States. This careful balancing by Congress requiring both intentional infringement and substantial U.S. actions resulted in the limited and appropriate extraterritorial enforcement of U.S. patent rights set forth in the statute.

III. An interpretation of section 271(f)(1) that requires the supply of at least two components from the U.S. as a matter of law would lead to illogical results.

Under the interpretation of the statute proposed by the district court, the supply of two trivial components of a three-component invention could infringe, while the supply of the most important component of a two-component invention could never infringe. IPO believes that this bright-line emphasis on the number of components would produce anomalous results and would largely reopen the *Deepsouth* loophole.

As one example, a claim to a pharmaceutical composition comprising the active pharmaceutical ingredient (API) mixed with water and salt could never be infringed by someone who shipped only the API out of the U.S., even though that person actively induced combining the API into the claimed composition knowing that it would infringe the patent. Under an overly rigid construction of section 271(f)(1), exporting only one component, no matter the importance of that component, is a complete defense as a matter of law.

Conversely, if that same person shipped salt and water from the U.S. to a foreign country where it was combined with the active ingredient, liability under section 271(f)(1) could attach because two of the three claimed components were exported from the U.S. IPO believes that there is no basis to hold that exporting two minor components could be infringing, while exporting one major component could never be.

In similar fashion, consider a patent claim directed to a chemical composition that requires at least 95% of Component A and no more than 2% each of Components B, C, and D. A rigid construction of the statute could result in liability for someone exporting the three minor components (75% of the components) while exporting the major component alone never could.

As a final example, a patented hearing aid might require several standard components, such as a housing, speaker, and microphone, in addition to a novel microprocessor that processes incoming sounds in an innovative way. If the standard components, the housing, speaker, and microphone were sourced internationally and the most important component (the novel microprocessor) were supplied from the United States, there could be no infringement under a statutory construction focused solely on numbers. IPO believes that such an inflexible reliance on numbers alone is not appropriate and would have a negative effect on the value and enforceability of U.S. patent rights.

IV. IPO believes that the interpretation of "a substantial portion of the components of the patented invention" should take into account the relative *importance* of the component(s) to the patented invention.

Rather than focusing solely on the number of components supplied from the U.S., IPO believes the interpretation of "a substantial portion of the components of the patented invention" in the statute should take into account the relative importance to the patented invention of the components supplied from the U.S.,

in addition to the numerical proportion of components provided. Accordingly, IPO believes that the analysis of whether the component or components supplied by an accused infringer constitutes "a substantial portion of the components of the patented invention" should be based on a case-specific analysis that focuses on more than just the number of components shipped abroad. This common sense approach is consistent with the language of the statute and the legislative history addressing *Deepsouth.*

In addition, by using a case-specific analysis that focuses on more than just the number of components shipped abroad, the law would prevent infringers from avoiding infringement through gamesmanship. Under the district court's construction of the statute, an unscrupulous company could combine most of the components of a patented invention into a single "component" prior to shipment outside the U.S. for final assembly abroad. Using the example of the chemical composition that requires at least 95% of Component A and no more than 2% each of Components B, C, and D, a manufacturer could attempt to avoid liability by combining Components B, C, and D in the U.S. into a single Component E for export. If the number of components exported were all that mattered, this strategy would provide willful infringers with a readymade roadmap to avoid infringement liability in the United States. IPO believes that this would have a direct and negative effect on the strength of U.S. patent rights and reduce the ability of owners of valid U.S. patents to prevent misappropriation of their inventions. Congress acted wisely in plugging the enforcement loophole exposed by *Deepsouth.* IPO respectfully requests that this Court not undo Congress's efforts in this regard.

CONCLUSION

IPO believes that the Federal Circuit's interpretation of § 271(f)(1) in *Promega* is correct, i.e., that an accused infringer should not be shielded from liability as a matter of law for supplying or causing to be supplied a single component of a patented combination that is combined outside the United States. IPO also believes that the interpretation of "a substantial portion of the components of the patented invention" should be based on a case-by-case analysis that takes into account the relative importance to the patented invention the component(s) supplied from the U.S. provide, in addition to their numerical proportion.

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LIFE TECHNOLOGIES CORPORATION, ET AL.,

Petitioners,

—v.—

PROMEGA CORPORATION,

Respondent.

On Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

BRIEF *AMICUS CURIAE* OF INTELLECTUAL PROPERTY PROFESSORS IN SUPPORT OF PETITIONERS

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INTEREST OF THE *AMICI CURIAE*[1]

Amici are law professors who specialize in intellectual property law and who have previously published on, or have interest in, the issue of extraterritoriality. Amici have no personal stake in the outcome of this case but has an interest in seeing that the patent laws develop in a way that promotes rather than impedes innovation.

SUMMARY OF THE ARGUMENT

This Court has made clear that, absent a clear expression from Congress, U.S. laws do not apply extraterritorially. The Court has noted that the presumption against extraterritoriality has particular force in the context of patent law. The Federal Circuit has given short shrift to this argument. This case presents the opportunity for the Court to strike the appropriate extraterritorial reach for a U.S. patent under 35 U.S.C. § 271(f) and

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[1] Pursuant to Supreme Court Rule 37.6, *amici curiae* affirms that no counsel for a party authored this brief in whole or in part, that no counsel or a party made a monetary contribution intended to the preparation or submission of this brief and no person other than *amici curiae*, their members, or their counsels made a monetary contribution to its preparation or submission.

Respondent consented in writing to the filing of this brief, which is being filed with this brief. Petitioners filed blanket consent to the filing of amicus briefs, which is on file with the clerk.

to signal to the Federal Circuit to take the presumption against extraterritoriality seriously.

The brief offers two approaches to answer this question. The first, following the typical approach to extraterritoriality, argues that the Federal Circuit's interpretation was unnecessarily broad in light of the presumption. Second, the brief offers an alternative approach for patent law, drawing on academic literature, criminal law, and trademark law: courts should consider the potential for conflicts with foreign law in assessing whether liability for patent infringement is appropriate.

ARGUMENT

I. THE SUPREME COURT HAS CREATED A STRONG PRESUMPTION AGAINST THE EXTRATERRITORIAL APPLICATION OF UNITED STATES LAW, AND PARTICULARLY UNITED STATES PATENT LAW

The Supreme Court has established that there is a strong presumption against the extraterritorial application of U.S. law. *See, e.g., RJR Nabisco, Inc. v. European Cmty.*, 136 S. Ct. 2090, 2101, 2106 (2016) (finding presumption rebutted for § 1962 of Racketeer Influenced and Corrupt Organizations Act but not § 1964(c)); *Kiobel v. Royal Dutch Petroleum Co.*, 133 S. Ct. 1659, 1669 (2013) (relying on presumption to decline to extend reach of Alien Tort Statute); *Morrison v. Nat'l Australia Bank Ltd.*, 561

U.S. 247, 265 (2010) (relying on presumption to decline application of United States securities law to foreign conduct); *E.E.O.C. v. Arabian Am. Oil Co.*, 499 U.S. 244, 259 (1991) (using presumption to decline application of Title VII to employment practices of U.S. employers employing U.S. citizens abroad). Although Congress undisputedly has the authority to regulate acts outside of the territorial boundaries of the United States, the Court has recognized that "legislation of Congress, unless a contrary intent appears, is meant to apply only within the territorial jurisdiction of the United States . . . ." *Foley Bros. v. Filardo*, 336 U.S. 281, 285 (1949).

As this Court has noted, "[w]hen a statute gives no clear indication of an extraterritorial application, it has none." *Morrison v. Nat'l Australia Bank Ltd.*, 561 U.S. 247, 248 (2010). While falling short of a "clear statement rule," *see id.* at 265, *Morrison* emphasized the importance and power of the rule: "the presumption against extraterritorial application would be a craven watchdog indeed if it retreated to its kennel whenever *some* domestic activity is involved in the case." *Id.* at 266; *see also* Timothy R. Holbrook, *Should Foreign Patent Law Matter?*, 34 CAMPBELL L. REV. 581, 601-07 (2012) (discussing implications of *Morrison* for patent law).

This watchdog has particular bite in the context of patent law. *See Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 454-55 (2007) ("The presumption that United States law governs domestically but does not rule the world applies with particular force in patent law."). Indeed, as far back

as 1856, this Court rejected the extraterritorial reach of a patent: "The power thus granted is domestic in its character, and necessarily confined within the limits of the United States." *Brown v. Duchesne*, 60 U.S. 183, 195 (1856) (holding U.S. patent rights do not extend to invention on foreign vessel in U.S. port).

More recently, the Court again rejected a party's attempt to use its patent to control extraterritorial activity. In *Deepsouth Packing Co. v. Laitram Corp.*, the Supreme Court concluded that the manufacture of all components of a patented invention in the United States, that subsequently was assembled abroad, did not constitute infringement of a U.S. patent. 406 U.S. 518, 529 (1972). The Court emphasized that "[o]ur patent system makes no claim to extraterritorial effect." *Id.* at 531. Without a clear statement from Congress that the statute was meant to apply to activity outside of the territorial limits of the United States, the Supreme Court refused to grant the statute such an expansive scope.

Although Congress provided the "clear and certain" signal, abrogating *Deepsouth* in part by adopting 35 U.S.C. § 271(f) in 1984, the Supreme Court relied on the presumption against extraterritoriality to construe that provision narrowly. In *Microsoft Corp. v. AT&T Corp.*, the Court held (1) that only physically-embodied computer software, not software in the abstract, could constitute a "component" under § 271(f), 550 U.S. 437, 449-50 (2007), and (2) that such components were not "supplied" under § 271(f) when

copies of the software were made outside of the United States. *Id.* at 452-54. To support its interpretation, the Court specifically noted that "[a]ny doubt that Microsoft's conduct falls outside § 271(f)'s compass would be resolved by the presumption against extraterritoriality . . . ." *Id.* at 454. Notwithstanding that Congress explicitly abrogated *Deepsouth* to afford some extraterritorial protection to U.S. patent holders, the Court rejected AT&T's argument that the presumption was inapplicable and used the presumption to construe § 271(f) narrowly. *Id.* at 454-56. *See generally* Timothy R. Holbrook, *Extraterritoriality in U.S. Patent Law*, 49 WM. & MARY L. REV. 2119, 2135-36 (2008) [hereinafter *Extraterritoriality*] (discussing importance of the use of the presumption in *Microsoft*).

II. THE FEDERAL CIRCUIT CONSISTENTLY FAILS TO CONSIDER THE PRESUMPTION AGAINST EXTRATERRITORIALITY IN INTERPRETING THE PATENT LAWS.

Notwithstanding the clear message from the Supreme Court regarding the presumption against the extraterritorial application of U.S. law – and patent law in particular – the Federal Circuit has consistently failed to give the presumption its due weight. This case is but one of many that exemplifies this failure. As such, this case presents more than the opportunity to answer the relatively narrow question before it; it also affords the Court

the chance to speak to the Federal Circuit about the importance of applying the presumption appropriately even beyond this case.

A. In Various Other Cases, the Federal Circuit Has Given the Presumption Against Extraterritoriality Short Shrift.

Notwithstanding the Court's clear statement that the presumption against the extraterritorial application of United States law has "particular force in patent law," *Microsoft*, 550 U.S. at 455, the Federal Circuit's application of the presumption has been, at best, inconsistent. *See generally* Holbrook, *Extraterritoriality*, *supra* at 2136-54. Generally, the court has been willing to afford extraterritorial protection to U.S. patent holders while rarely affording the presumption much weight.

For example, in *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc.*, 617 F.3d 1296 (Fed. Cir. 2010), the Federal Circuit held that there was an infringing offer to sell an invention if the sale contemplated in the offer was to be in the United States, even though all negotiations took place outside of the United States. *Id.* at 1309. As a result of this holding, a party can be liable for patent infringement in the United States notwithstanding that there has never been any activity within the United States. Timothy R. Holbrook, *Territoriality and Tangibility After* Transocean, 61 EMORY L.J. 1087, 1112 (2011) [hereinafter *Territoriality*]. While the Federal Circuit acknowledged the presumption, it failed to

account for the broad extraterritorial reach its decision afforded to United States patents. When Maersk filed a petition for a writ of certiorari, the Supreme Court asked for the Solicitor General's views on the case, but the case ultimately settled.[2]

The Federal Circuit similarly has afforded extraterritorial protection for the use of systems that straddle national borders. In *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282 (Fed. Cir. 2005), the court found infringement of a mobile email system where part of the system – the relay – was located in Canada. *Id.* at 1317. The court concluded that, while part of the system was outside of the United States, the use of the system was within the United States because the users controlled the devices and obtained the benefit of the system – receipt of email – in the United States. *Id.* at 1316-17. At no point did the court mention the presumption against extraterritoriality in affording this protection.

Finally, in interpreting the provision at issue in this case, 35 U.S.C. § 271(f), the Federal Circuit generally has been expansive in its interpretation. For example, the Federal Circuit has held that there is infringement under § 271(f) even if the device is never assembled outside of the United States. *Waymark Corp. v. Porta Sys. Corp.*, 245 F.3d 1364,

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[2] Subsequently, the Federal Circuit has held that there is no infringement when the offer takes place in the United States but the contemplated sale is to occur outside of the United States. *See* Halo Elecs., Inc. v. Pulse Elecs., Inc., 769 F.3d 1371, 1381 (Fed. Cir. 2014), *vacated and remanded on other grounds*, 136 S. Ct. 1923 (2016).

1368 (Fed. Cir. 2001). This interpretation expands the scope of this provision by ensnaring conduct abroad regardless of whether anyone has has assembled the device. Oddly the Federal Circuit suggested this interpretation avoided the appearance of providing extraterritorial reach to United States, *id.*, yet the court's decision actually expanded such reach.

The Federal Circuit also held that a "component" under § 271(f) could be an intangible item such as software, *Eolas Techs. Inc. v. Microsoft Corp.*, 399 F.3d 1325, 1339 (Fed. Cir. 2005), and that supplying the component included software replicated abroad from a master version, *AT&T Corp. v. Microsoft Corp.*, 414 F.3d 1366, 1370 (Fed. Cir. 2005), *rev'd*, 550 U.S. 437 (2007). The Supreme Court rejected in part these expansive interpretations of the statute in *Microsoft Corp. v. AT&T Corp.*, *see* 550 U.S. at 451-54, but these cases again show that the Federal Circuit consistently provides § 271(f) an expansive interpretation while failing to give proper account of the presumption against extraterritoriality.[3]

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[3] The Federal Circuit has provided a narrow interpretation of § 271(f), concluding it does not apply to patented methods or processes. *See* Cardiac Pacemakers, Inc. v. St. Jude Med., Inc., 576 F.3d 1348, 1359 (Fed. Cir. 2009) (en banc in relevant part). The Federal Circuit in *Cardiac Pacemaker* did rely on the presumption to afford § 271(f) a narrow interpretation. *See id.* at 1365 ("Any ambiguity as to Congress's intent in enacting Section 271(f) is further resolved by the presumption against extraterritoriality."). It is not clear, however, that this

Such failure to accord the presumption appropriate consideration lead to the flawed construction in this case and has also resulted in questionable interpretations of other provisions. The Court should take the opportunity here to emphasize the broad reach of the presumption against extraterritorial application of U.S. patents.

B. Appropriate Consideration of the Presumption Should Lead to a Narrower Construction Here: A Single Component Cannot Be a "Substantial Portion" of the Claimed Invention.

The Federal Circuit has a penchant for providing extraterritorial protection for U.S. patent holders without giving appropriate consideration to the presumption against such reach, particularly in patent law. This case is consistent with the Federal Circuit's failure to take the presumption seriously.

Here, the Federal Circuit majority never even mentioned the presumption, let alone assessed whether it had been rebutted.[4] There is not a single

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provision should not apply to method claims. *See* Timothy R. Holbrook, *Method Patent Exceptionalism*, 102 IOWA L. REV. (forthcoming 2017) (manuscript at 29-31), papers.ssrn.com/sol3/papers.cfm?abstract_id=2760490.

[4] In her dissent, Chief Judge Prost noted that "the Supreme Court has cautioned against employing a policy-oriented approach to judicial decision making when it would cause law to have extraterritorial application," thus alluding to the

citation to *Morrison* or *Kiobel*, the Supreme Court's most recent cases discussing the presumption.

Unsurprisingly, the interpretation of § 271(f) provided by the Federal Circuit at issue before this Court expanded that provision's extraterritorial reach. By holding that "all or a substantial portion of the components of a patented invention" can include a *single component*, *Promega Corp. v. Life Techs. Corp.*, 773 F.3d 1338, 1353 (Fed. Cir. 2014), the court expanded the set of activities that can trigger liability for events occurring outside of the United States. Now, sending a single component can constitute a violation of § 271(f), as opposed to requiring all or nearly all of the components of a patented invention. The latter approach would dramatically curtail the extraterritorial reach of this provision.

As the provision most directly related to *Deepsouth*, it is clear that § 271(f) is meant to deal with multiple components being shipped abroad, and the "substantial portion" was to combat potential gaming of the statutory regime by sending *nearly* all of the components. In that context, the extraterritorial scope is fairly circumscribed and limited to address the situation in *Deepsouth*. The Federal Circuit's interpretation disrupts such proportionality.

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presumption. *Promega Corp. v. Life Techs. Corp.*, 773 F.3d 1338, 1360 (Fed. Cir. 2014) (Prost, C.J., dissenting-in-part).

Moreover, the court's interpretation renders § 271(f)(2) superfluous and removes that provision's important safety valve. Section 271(f)(2) explicitly addresses the exportation of a single component that is to be combined abroad in a device that would be infringing if in the United States. Specifically, it provides:

> (2) Whoever without authority supplies or causes to be supplied in or from the United States *any component* of a patented invention that is especially made or especially adapted for use in the invention and *not a staple article or commodity of commerce suitable for substantial noninfringing use*, where such component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

35 U.S.C. § 271(f)(2) (2013) (emphasis added).

Importantly, Congress recognized the potential broad scope of such a provision and carefully limited it to components that have no substantial non-infringing use. 35 U.S.C. § 271(f)(2). This safe harbor is an important safety valve to avoid triggering liability against persons who are simply selling a staple article that happens to end up

in what would be an infringing good if combined in the United States.

Section 271(f)(1) in contrast has no such safe harbor. By allowing a single component to satisfy the requirement of "all or a substantial portion of the components of a patented invention," it renders § 271(f)(2) superfluous. More troubling, it removes § 271(f)(2)'s important safe harbor, allowing someone to be liable for exporting a staple article of commerce, i.e. something that has substantial non-infringing uses.

The facts of this case demonstrate that problem. The component exported by Life Technologies, the accused infringer in this case, is *Taq* polymerase, which is a staple for any polymerase chase reaction (PCR) for amplifying any DNA sample beyond the particular use in this case. *See* National Center for Biotechnology Information, *PCR*, http://www.ncbi.nlm.nih.gov/genome/probe/doc/TechPCR.shtml (last visited Aug. 1, 2016). As such, although there would not be liability under § 271(f)(2) due to the substantial non-infringing uses of *Taq* polymerase, there is now liability under § 271(f)(1).

This expansive interpretation runs counter to the presumption against the extraterritorial application of U.S. patents. The more appropriate interpretation is to limit § 271(f)(1) to multiple components and leave § 271(f)(2) – with its important safety valve – to govern the exportation of single components.

III. AN ALTERNATIVE APPROACH TO EXTRATERRITORIALITY IN PATENT LAW: ACTUAL CONSIDERATION OF POTENTIAL CONFLICTS WITH A RELEVANT FOREIGN COUNTRY'S PATENT LAWS

In the era of the Internet, systems that straddle national borders, and increasing global trade, our territorially-rooted patent system faces new pressures, requiring a systemic reevaluation of the territorial nature of U.S. patent rights. Permitting certain extraterritorial protection for patents enhances their value.

Counter to the typical view of Congress's relationship with the courts, in this context, Congress lacks the dexterity to react to an ever-changing marketplace of new technologies. Instead, the courts are in the best position to address these concerns. Under this proposal, courts should explicitly consider foreign patent laws to determine whether the enforcement of the U.S. patent would create a conflict with the foreign law. This approach ties the enforceability of a U.S. patent right to the availability of that right in a foreign country. If there is a conflict, then the patent holder could not seek any extraterritorial relief.

This Court should embrace a formal consideration of the law of the relevant country to determine whether a conflict of laws actually exists. Allowing limited extraterritorial protection, but only absent an actual conflict, allows a patent holder to

coordinate activities through the use of fewer domestic rights, mitigating the need to assemble a portfolio of national rights from a variety of countries. Given the increasingly international nature of global trade, such flexibility would benefit U.S. patent holders. *See generally* Holbrook, *Extraterritoriality*, *supra* at 2163-85 (articulating a methodology for considering foreign patent law for purposes of extraterritorial application of a U.S. patent).

A. Due to the Various International Treaties, Patent Laws Across the World Have Very Similar Concepts, Making Consideration of Foreign Law Feasible.

One of the justifications for the presumption against extraterritoriality is to avoid potential conflicts with the laws of other sovereign nations. *See RJR Nabisco,* 136 S. Ct. at 2100 ("Most notably, it serves to avoid the international discord that can result when U.S. law is applied to conduct in foreign countries."). Nevertheless, the Court has made clear that the presumption applies regardless of whether there is such a conflict. *Morrison*, 561 U.S. at 255 ("The canon or presumption applies regardless of whether there is a risk of conflict between the American statute and a foreign law.") (citation omitted). In general, such a failure to consider the potential conflict of laws may be appropriate because the laws of different countries may differ significantly. Such analysis could prove challenging to courts.

That is not the case with patent law, however. Under the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), members of the World Trade Organization (WTO) are obligated to have patent systems that contain certain minimum requirements. For example, WTO members can only grant patents on inventions that are novel, have an inventive step (i.e. are non-obvious), and are adequately disclosed. TRIPS arts. 27 & 29. Although there is some variance across the globe, TRIPS has ensured that many of the fundamental concepts that underlie patent protection reach a certain level of coherence across countries.

Moreover, given the coordination of patent applications through the Patent Cooperation Treaty (PCT) process, patents often are very similar in form from country to country. *See* PCT, June 19, 1970, 28 U.S.T. 7645, *available at* http://www.wipo.int/treaties/en/registration/pct/. As a result, U.S. courts have a basic familiarity with the concepts of patent law that transcends territorial borders. Considering potential conflicts, therefore, is less problematic in the patent context because the laws and concepts underlying foreign patent law will be similar to those confronted by U.S. courts.

Despite possible remaining concerns with the institutional competence of courts to address foreign law, even with this level of harmonization, the interests of each party greatly mitigate these concerns. Both parties to the litigation have strong

incentives to educate the court as to the relevant foreign law. The accused infringer necessarily is active in the foreign country at issue and thus should have some familiarity with the law there. By comparison, the U.S. patent holder may be at a disadvantage because proving an infringement case would be more difficult. However, the extraterritorial application of a U.S. patent should be exceptional in nature. The U.S. patent holder's pragmatic disadvantage should be of no concern because the patent holder is seeking the exceptional remedy of extraterritorial protection. *See* Holbrook, *Extraterritoriality*, at 2127–28.

B. Express Consideration of Foreign Law by U.S. Courts Is Not Unprecedented.

Although it may seem odd to ask U.S. courts to consider foreign law in this fashion, courts do consider foreign law along these lines in at least two other contexts: criminal extraditions and trademark law.

1. A Country Seeking Extradition of an Individual Must Demonstrate that Asserted Activity Was a Crime in Both Countries.

In the criminal law context, a country seeking extradition of a person residing in another country must demonstrate that the accused behavior is

criminal in both countries. According to the Restatement (Third) of Foreign Relations Law:

> Under most international agreements, state laws, and state practice:
>
> (1) A person sought for prosecution or for enforcement of a sentence will not be extradited
>
> ***
>
> (c) if the offense with which he is charged or of which he has been convicted is not punishable as a serious crime in both the requesting and the requested state . . . .

Restatement (Third) of Foreign Relations Law § 476(1)(c) (1987). This dual-criminality principle requires that the activities of the accused constitute a crime in both jurisdictions for extradition to be appropriate, even if the acts occurred only in one of the countries. In this context, a U.S. court would need to consider both U.S. law and foreign law to determine whether extradition is appropriate.

The proposal here operates similarly. The patent holder would have to demonstrate that there would be infringement in the U.S. and infringement in the foreign country. If there were some sort of conflict – such as, for example, a different owner of the foreign patent or a licensee defense in the foreign

jurisdiction – then there would be no liability under the U.S. patent.

2. The Supreme Court Has Expressly Considered Conflicts in the Context of Federal Trademark Law

Courts also expressly consider foreign law in the trademark context, following the Court's decision in *Steele v. Bulova Watch Co.*, 344 U.S. 280 (1952). In *Bulova*, the accused trademark infringer was a U.S. citizen selling arguably infringing counterfeit watches in Mexico. *Id.* at 281. At one point, the accused had a trademark registration in Mexico for the mark BULOVA, but the Mexican government had revoked it. *Id.* Some of the infringing watches managed to make their way back into the United States, particularly along the Texas-Mexico border. *Id.*

The issue was whether U.S. courts had jurisdiction to hear a claim of trademark infringement under U.S. law when the allegedly infringing acts took place entirely in Mexico. The Supreme Court held that, under these facts, jurisdiction was appropriate. *Id.*

Although the courts of appeals have differed in their applications of *Bulova*, all of their formulations include consideration of a potential conflict with foreign law. For example, the Second Circuit considers three factors in assessing whether to apply trademark law extraterritorially: (1) whether there is a substantial effect on U.S.

commerce; (2) what the citizenship of the accused infringer is; and (3) whether there would be a conflict with foreign law. *Vanity Fair Mills, Inc. v. T. Eaton Co.*, 234 F.2d 633, 642 (2d Cir. 1956). The First Circuit has taken a slightly different approach: "we disaggregate the elements of its test: we first ask whether the defendant is an American citizen, and if he is not, then we use the substantial effects test as the sole touchstone to determine jurisdiction." *McBee v. Delica Co.*, 417 F.3d 107, 121 (1st Cir. 2005). The court then moves to consider comity and potential conflicts as a prudential question. *Id.*

The Ninth Circuit recently revisited the issue of extraterritoriality in the trademark law context, considering the impact of *RJR Nabisco.* Applying the two-step framework of *RJR Nabisco*, the Ninth Circuit concluded that, under *Bulova*, the Lanham Act (the federal trademark statute) has extraterritorial reach. *Trader Joe's Co. v. Hallatt*, No. 14-35035, 2016 WL 4488009, at *3 (9th Cir. Aug. 26, 2016). In assessing whether such protection was appropriate, however, the court expressly considered seven comity factors, including conflicts with foreign law. *Id.* at **8-11.

In all permutations, the courts of appeals expressly consider potential conflicts with foreign law. Holbrook, *Territoriality,* at 1121 n.144. The express consideration of foreign law and potential conflicts, therefore, is not unprecedented.

3. Commentators Have Argued for Consideration of Potential Conflicts in Intellectual Property Law

Commentators have also suggested looking at foreign law to assess the extraterritorial reach of patent law and other forms of intellectual property laws. *See, e.g.*, Holbrook, *Extraterritoriality*, *supra* at 2163-83; Melissa Feeney Wasserman, Note, *Divided Infringement: Expanding the Extraterritorial Scope of Patent Law*, 82 N.Y.U. L. REV. 281, 304 (2007) (arguing for use of six comity factors to balance concerns of extraterritorial reach of U.S. patents); *see also* Graeme B. Dinwoodie, *A New Copyright Order: Why National Courts Should Create Global Norms*, 149 U. PA. L. REV. 469, 542-43 (2000) ("[A] court faced with an international copyright dispute would not necessarily apply the copyright law of a single state . . . . Instead, it would consider whether the international dimension implicated policies of other states or the international copyright system, and develop (and apply) a substantive rule of copyright law that best effectuates this range of policies.").

These commentators all recognize that our systems for generating innovation and creativity are no longer truly domestic. Instead, all intellectual property laws now have international aspects to them. Ignoring this dynamic inappropriately discounts the manner in which the various incentives of patents operate around the world.

C. Expressly Considering Foreign Patent Law Leads to Many Laudable Benefits.

With international trade and interlocking patent law regimes, an approach which considers the potential conflicts with relevant foreign laws would afford a number of advantages. A consideration of foreign law by U.S. courts would facilitate a dialogue between U.S. courts and foreign jurisdictions, particularly between the Federal Circuit and other specialized patent courts.

Indeed, countries can act as individual laboratories, creating a variety of solutions to different innovation policy issues. One of these countries may find the optimal answer. Requiring courts to consider those differences may help improve our own laws. By analyzing the foreign law, judges can reach a greater understanding of the various intellectual property norms that exist in the world, and indeed may be able to identify situations where these norms have converged into an international standard.

Beyond recognizing extant norms, the dialogue could help foment such norms. Given the generally slow process of treaty negotiations and their inability to adapt to ever-evolving technologies, a judicial colloquy on patent law could help establish international norms that might reduce the transaction costs for international actors. This private law lever could act as an important and powerful supplement to the public law mechanisms.

Additionally, this analysis may serve to highlight important differences that exist among countries. Patent laws can reflect important social differences among countries, and those differences deserve respect and deference, just as the United States would expect respect and deference to its laws if applied by a foreign tribunal. The proposed methodology could also serve to identify such points of disagreement between countries which may form the basis for future political negotiations.

This dialogue may benefit Congress and other political bodies in addition to the courts. The decisions by U.S. courts may provide reasoning that would help Congress assess whether to amend the Patent Act, particularly if Congress is attempting to implement legislation in the name of harmonization. A court's reasoned analysis about the manner in which foreign jurisdictions deal with various patent issues would be a useful source of information for legislators who are attempting to fine tune, if not completely overhaul, U.S. patent law. *See generally* Holbrook, *Extraterritoriality*, *supra* at 2185-88.

CONCLUSION

The Supreme Court has repeatedly emphasized the importance of the presumption against the extraterritorial application of United States laws, a presumption that the Federal Circuit ignored in this case and generally fails to consider consistently and appropriately. If the Court follows its traditional methodology, then the lessons of *RJR Nabisco*,

Kiobel, and *Morrison* suggest that the Federal Circuit's interpretation of § 271(f)(1) is incorrect.

Nevertheless, this case also provides an opportunity for the Court to reconcile its patent jurisprudence with that of trademark law. The Court should embrace the formal consideration of conflicts with foreign law. Such consideration will facilitate transnational dialogue among courts and other innovation policymakers in a way that is more facile than legislation or treaty making.

Under either methodology, the case should be remanded to the Federal Circuit or District Court for a proper assessment of infringement under this provision.

Respectfully submitted,

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IN THE

Supreme Court of the United States

LIFE TECHNOLOGIES CORPORATION;
INVITROGEN IP HOLDINGS, INC.;
APPLIED BIOSYSTEMS, LLC,

Petitioners,

v.

PROMEGA CORPORATION,

Respondent.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF OF *AMICUS CURIAE* NEW YORK INTELLECTUAL PROPERTY LAW ASSOCIATION IN SUPPORT OF RESPONDENT

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INTEREST OF *AMICUS CURIAE*[1]

The New York Intellectual Property Law Association ("NYIPLA") is a bar association of more than 1,300 attorneys who practice in the area of patent, copyright, trademark and other intellectual property ("IP") law.[2] It is one of the largest regional IP bar associations in the United States. Its members include in-house counsel for businesses and other organizations, and attorneys in private practice who represent both IP owners and their adversaries (many of whom are also IP owners). Its members represent inventors, entrepreneurs, businesses, universities, and industry and trade associations.

The NYIPLA's members and their clients regularly participate in patent litigation on behalf of both plaintiffs and defendants in federal court and in proceedings before the United States Patent and Trademark Office. They also actively engage in licensing matters representing both patent licensors and licensees. The NYIPLA thus brings an informed perspective to the issues presented.

The NYIPLA's members and their respective clients have a strong interest in the issues in this case because

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1. Pursuant to Sup. Ct. R. 37.6, the NYIPLA and its counsel represent that they have authored the entirety of this brief, and that no person other than the *amicus curiae* or its counsel has made a monetary contribution to the preparation or submission of this brief.

2. Pursuant to Sup. Ct. R. 37.3(a), NYIPLA received written consent from Respondent to file this brief. Petitioners consented to the filing of *amicus curiae* briefs in support of either party or neither party in a docket entry dated August 4, 2016.

their day-to-day activities depend on a robust patent system that protects U.S. inventions. The statute at issue here, 35 U.S.C. § 271(f)(1), plays an important role in the enforcement of U.S. patents protecting multicomponent inventions in all fields of endeavor. Congress enacted § 271(f)(1) to address a loophole in the enforcement of these patents. The statute prevents such patents from being circumvented through exporting some or all of the components for combination offshore into the patented invention. It holds infringers liable for their intentional, domestic conduct even when final assembly of the components occurs overseas. The NYIPLA has a particularly strong interest in meaningful and flexible interpretation of the patent laws to protect and foster U.S. innovation across industries.[3]

SUMMARY OF THE ARGUMENT

§ 271(f)(1) plays an important role in the enforcement of U.S. patents protecting multicomponent inventions across technologies. Congress passed the statute as a

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3. The arguments made in this brief were approved by an absolute majority of NYIPLA's officers and members of its Board of Directors, but do not necessarily reflect the views of a majority of the members of the Association or of the law or corporate firms with which those members are associated. After reasonable investigation, the NYIPLA believes that no officer, director, or member of the Amicus Briefs Committee who voted in favor of filing this brief, nor any attorney associated with any such officer, director, or committee member in any law or corporate firm, represents a party to this litigation. Some officers, directors, committee members, or associated attorneys may represent entities, including other *amici curiae*, which have an interest in other matters that may be affected by the outcome of this litigation.

remedial measure to prevent such patents from being circumvented through supply from within the United States of "all or a substantial portion of the components of a patented invention" for combination offshore.

In this case, LifeTech supplies *Taq* polymerase, an enzyme used in its genetic testing kits to amplify the DNA sequences of interest so as to have enough DNA for genetic analysis. The kits, used for forensic identification as well as clinical purposes, have four other components and are assembled offshore. LifeTech manufactures *Taq* polymerase in the United States and then ships it to its facility in the United Kingdom where the accused kits are assembled. The jury concluded that LifeTech infringed Promega's patents. The Federal Circuit—pointing to evidence from LifeTech that *Taq* polymerase is one of the "main" and "major" components of the kits—held that the evidence in the record supported the jury's finding that *Taq* is a "substantial portion" of the components of the patented invention.[4] Pet. App. 28a.

LifeTech argued that it cannot be liable under § 271(f)(1) for providing "all or a substantial portion of the components of a patented invention" because it supplied only a single component for combination offshore and a single component could never be a "substantial portion" of the invention. Consistent with this Court's guidance, the Federal Circuit rejected LifeTech's rigid and mandatory formula. The Federal Circuit recognized that while the

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4. The NYIPLA takes no position on whether LifeTech infringes Promega's patents. It only advocates for a flexible approach to liability under § 271(f)(1) that takes into account both the number and nature of the components in each specific case.

number of components supplied may provide helpful insight, that number should not be translated into a rigid test. The court refused to "categorically exclude the 'supply' of a single component of a patented invention from the scope of § 271(f)(1)." Pet. App. 33a. Instead, the Federal Circuit held that "there are circumstances" in which supply of a single component for combination outside the United States may trigger liability. *Id.* at 28a.

The Federal Circuit's holding allows the factfinder to consider the facts and circumstances of each case in determining if a "substantial portion" of the invention has been supplied from the United States. Its flexible approach, which permits the factfinder to exercise common sense in evaluating case-specific circumstances such as whether a component is central to the patented invention, in addition to the number of components supplied from the United States, makes meaningful enforcement of the statute possible.

By contrast, the rigid numerical test for "substantial portion" advocated by LifeTech and correctly rejected by the Federal Circuit would deprive the factfinder of discretion to consider the totality of the circumstances. It would also produce absurd results, encourage gamesmanship, and frustrate the purpose of this anti-evasive statute. As this Court has repeatedly pointed out, rigid bright-line rules are neither consistent with nor required by this Court's precedents in patent cases because they preclude meaningful enforcement of the patent laws. Consistent with those precedents, there is no reason to adopt a rigid test for liability under § 271(f)(1) here.

In support of its rigid test, LifeTech relies heavily on the presumption against extraterritoriality. This reliance has no support in this Court's precedents. The presumption is a canon of construction used in determining whether a given statute regulates conduct and transactions that occur abroad. It provides no authority to interpret statutes so as to minimize the *impact* of U.S. law on foreign economies.

At bottom, LifeTech's "extraterritoriality" arguments are really about what *effects* § 271(f)(1) will have on trade and foreign commerce. These arguments are incorrect, since a rigid numerical test only encourages gamesmanship and ignores Congress's anti-evasive purpose in passing § 271(f)(1). They also have no place here. While there is no question that § 271(f)(1) potentially affects foreign commerce, the presumption against extraterritoriality provides no authority to set economic policy or to interpret patent laws regulating domestic activity to that end. The question before the Court in this case is not the geographic scope of conduct regulated by § 271(f)(1), but the amount (and nature) of domestic conduct necessary to trigger liability under the statute. The presumption is therefore entirely inapplicable.

For all these reasons, this Court should affirm the ruling below.

ARGUMENT

I. Meaningful Enforcement of § 271(f)(1) Requires Case-Specific Analysis That Takes into Account the Importance of Components to the Patented Invention.

This Court should ratify the Federal Circuit's case-specific approach to assessing liability under § 271(f)(1). The Federal Circuit recognized that in some circumstances the supply of a single component for combination outside the United States may be a "substantial portion" of the components of a patented invention. Its flexible test for "substantial portion," which permits the factfinder to consider both the number and nature of the components, makes meaningful enforcement of the statute possible.

A. A Flexible Test for "Substantial Portion" Comports with the Purpose of the Statute and This Court's Precedents.

The Federal Circuit correctly did not prescribe any formula for assessing if one or more components constitute a "substantial portion" of a patented multicomponent invention. It rejected LifeTech's strict numerical argument that "a single component supplied from the United States, no matter how important or central to the invention, can never constitute 'a substantial portion of the components of a patented invention.'" Pet. App. 34a. The court thus made it possible for the factfinder to consider both the number and the importance of the component(s) supplied from the United States.

The NYIPLA agrees that whether one or more supplied components represent a "substantial portion" of the components of a patented invention should be determined by the factfinder on a case-by-case basis, taking into consideration the totality of the circumstances. The Federal Circuit's flexible approach, consistent with the statutory term "substantial," allows a factfinder to consider both the qualitative and quantitative nature of the "portion of . . . components" supplied. *See Pierce v. Underwood*, 487 U.S. 552, 564 (1988) (noting that "substantial" may mean "considerable in amount, value, or the like") (citation omitted). It requires the factfinder to determine whether the portion of components supplied in any individual case is "substantial" to the patented invention such that the supplier is subject to liability.

A flexible test not only allows for meaningful analysis but protects multicomponent inventions as technology evolves. Congress passed § 271(f) in response to this Court's holding in *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518 (1972). There, a manufacturer knowingly evaded the patent laws by shipping all components of a patented shrimp deveining machine to foreign customers for assembly outside the United States. This Court held that the patent laws did not apply to making or using a patented product outside of the United States, and thus the knowing supply of all components of a patented invention for assembly and use outside the United States did not violate U.S. patent laws. *Id.* at 527. In response, Congress passed § 271(f)(1) to remedy the loophole in the law. *See, e.g., Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 444 & n.3 (2007). Its express purpose is to ensure that infringers do not "avoid[] U.S. patents." 130 Cong. Rec. 10525.

But Congress did not merely close the *Deepsouth* loophole by making it an act of infringement when *all* components are shipped from the United States for assembly in another country. Rather, it used the phrase "all or a substantial portion of the components"—broader language than the particular facts at issue in *Deepsouth*—to avoid new and unintended loopholes. In doing so it chose to expand liability to the supply of "a substantial portion" of the components of a patented invention. This language, and the flexibility it reflects, provides meaningful protection for multicomponent inventions.

It also protects future innovation. Through the choice of the term "substantial portion," Congress did not merely look backward to close a loophole that allowed intentional infringement by supplying all components of a 20th-century mechanical device. Instead, it wrote a statute that could apply to all manner of inventions and their components—including inventions then unknowable. In *Microsoft*, for example, this Court noted that § 271(f) might one day apply to intangible methods or processes with intangible components. 550 U.S. at 452 n.13. The phrase "substantial portion" allows § 271(f)(1) to be applied to the full range of human invention, inviting the factfinder to consider the relevant circumstances and to determine whether, in any particular case, the "portion" of components supplied from the United States is "substantial" enough to trigger liability.

The Federal Circuit's flexible test also adheres closely to this Court's precedents and guidance. This Court has repeatedly rejected rigid patent rules that "deny factfinders recourse to common sense" and prevent the patent laws from being applied flexibly. *See KSR*

Int'l Co. v. Teleflex Inc., 550 U.S. 398, 421 (2007). When considering the Federal Circuit's bright-line machine-or-transformation test for patent eligibility, for example, the Court found that the machine-or-transformation analysis is a "useful and important clue" but should not be the exclusive categorical test for patent eligibility. *Bilski v. Kappos*, 561 U.S. 593, 604-05 (2010). Similar to the rationale in *Bilski*, although the number of components is a "helpful insight" or a "useful and important clue," as the Federal Circuit recognized, it should not be elevated into an exclusive, categorical rule. As this Court has explained time and time again, categorical rules, such as the numerical test that LifeTech advocates, have the tendency to "frustrate the purposes of the patent law." *Id.* at 604-05. Indeed, "[t]his Court has 'more than once cautioned that courts should not read into the patent laws limitations and conditions which the legislature has not expressed.'" *Id.* at 602 (quoting *Diamond v. Diehr*, 450 U.S. 175, 182 (1981)). LifeTech's rigid test would frustrate the anti-evasive purpose of § 271(f)(1) and, just as in *Halo*, potentially shield "many of the most culpable offenders" from liability. *See Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923, 1932 (2016). Rigid rules "are neither necessary under [this Court's] case law nor consistent with it." *KSR*, 550 U.S. at 421.

B. An Interpretation of § 271(f)(1) That Requires Supply of More Than One Component of a Patented Invention Would Produce Absurd Results and Frustrate the Purpose of the Statute.

The Federal Circuit declined to adopt LifeTech's interpretation of "a substantial portion of the components"

of a patented invention to "categorically exclude the 'supply' of a single component of a patented invention from the scope of § 271(f)(1)." Pet. App. 33a. Applying LifeTech's numerical test for liability under § 271(f)(1) would produce absurd results, encourage gamesmanship, and frustrate legislative intent.

For example, using a strictly numerical interpretation of "substantial portion" would eliminate liability for the supply of less than all of the components of a two-component invention. That is, for a two-component invention, there could be no supply of a "substantial portion" of the components of the patented invention. Liability would attach only if "all" the components were shipped for combination offshore.

An exporter who intentionally supplied the major and most important component of the invention, and actively induced that component's combination with the other, insubstantial component overseas, would escape liability as a matter of law. For two-component inventions, which are common, the phrase "or a substantial portion" would be read out of the statute entirely and patents covering two-component inventions would be easily circumvented just as prior to the enactment of § 271(f). The same may be true of three- and four-component inventions if not all of the components are shipped abroad. Indeed, the Government argues that 75% of the components may not be a "substantial portion" of the components under an interpretation that requires a large number or substantially all of the components to be shipped. U.S. Br. at 26. A numerical test would therefore frustrate Congressional intent, reopening the *Deepsouth* loophole for numerous important combination inventions.

The same numerical test also would have unintended and perhaps arbitrary effects for combination inventions with many components. For example, for a multicomponent invention including one costly, complex microprocessor and scores of inexpensive standard components, such as wires, housing, speakers, and circuits, the supply of the complex microprocessor alone, together with active inducement of the combination, would never subject the exporter to liability. Conversely, the supply of a number of trivial components could subject an exporter to liability. A strictly numerical test would thus excuse the supply of the most important and critical component of an invention, while exposing exporters of trivial, staple components of the same invention to potential liability.

A bright-line numerical test also encourages gamesmanship to avoid liability under § 271(f)(1). For example, manufacturers could combine a number of the components of an invention into a single component in order to export only a single component and avoid liability as a matter of law. Similarly, manufacturers could divide up the export of components for combination into a patented invention offshore so that each exports only a single component and avoids infringement under the statute. A numerical test would frustrate the purpose and plain language of § 271(f)(1) and Congress's anti-evasive intent. This Court should ratify the Federal Circuit's flexible test for "a substantial portion."

II. The Presumption Against Extraterritorial Application of Law Does Not Apply to the Question Presented.

For its rigid numerical test, LifeTech relies heavily on the presumption against extraterritorial application of U.S. law. LifeTech argues that the presumption's "point . . . is to prevent U.S. law from intruding on the decisions of foreign governments regarding their consumers' access to useful products." Pet. Br. at 29. It argues that the Federal Circuit's flexible construction of "substantial portion" is contrary to this Court's application of the presumption and impinges on U.S. export trade. These arguments are at odds with the well-established role of the presumption, which provides guidance as to the geographic scope of U.S. law. The presumption is not a vehicle to set economic policy or minimize the extraterritorial *effects* of legislation, such as its impact on trade.

As discussed below, for over a century this Court has used the presumption against extraterritorial application of U.S. law to determine whether a given statute regulates conduct and transactions that occur abroad. That question is not raised in this case, where it is undisputed that LifeTech "supplie[d] . . . *from the United States*" some "portion of the components of a patented invention." § 271(f)(1). As a geographic matter, there is no doubt that LifeTech's conduct is domestic and within the scope of the statute.

The question presented here is how to determine whether the "portion" of components LifeTech "supplie[d] . . . from the United States" was "substantial" so as to result in infringement liability. In other words,

the case is about the legal significance of LifeTech's admittedly domestic conduct, not the collateral effect of that conduct on international trade. Indeed, LifeTech concedes that "the question in this case asks *how much* domestic conduct is necessary to trigger the prospect of U.S. patent liability." Pet. Br. at 27 (emphasis in original). There is no precedent and no basis for applying the presumption against extraterritoriality to such a question.

A. The Presumption Against Extraterritoriality Serves to Identify the Geographic Scope of Regulated Conduct.

The presumption against extraterritorial application of law is a canon of construction used to determine whether a given statute is intended by Congress to regulate conduct and transactions that occur abroad. *Kiobel v. Royal Dutch Petro. Co.*, 133 S. Ct. 1659, 1664 (2013) ("We typically apply the presumption to discern whether an Act of Congress regulating conduct applies abroad."). It does not authorize construing statutes with the aim of minimizing their impact on foreign economies.

This Court discussed the rationale for the presumption against extraterritorial application of law more than a century ago. *See Am. Banana Co. v. United Fruit Co.*, 213 U.S. 347, 355-58 (1909) (Holmes, J.). The defendant in *American Banana* was accused of anticompetitive behavior consisting primarily of instigating Costa Rican government officials to take actions (including seizing a plantation) that injured the plaintiff's banana business. *Id.* at 354-55. But "the acts causing the damage were done, so far as appears, outside the jurisdiction of the United States and within that of other states." *Id.* at 355.

While acknowledging that certain statutes purport to regulate "acts done within another recognized jurisdiction" if they "immediately affect[] national interests," this Court noted that "the general and almost universal rule is that the character of an act as lawful or unlawful must be determined wholly by the law of the country where the act is done." *Id.* at 356. It explained that "[f]or another jurisdiction, if it should happen to lay hold of the actor, to treat him according to its own notions rather than those of the place where he did the acts, not only would be unjust, but would be an interference with the authority of another sovereign, contrary to the comity of nations, which the other state concerned justly might resent." *Id.* Accordingly, "in case of doubt," courts should adopt a "construction of any statute as intended to be confined in its operation and effect to the territorial limits over which the lawmaker has general and legitimate power." *Id.* at 357. The Court explained that "[w]ords having universal scope, such as 'Every contract in restraint of trade,' 'Every person who shall monopolize,' etc., will be taken as a matter of course to mean only every one subject to such legislation, not all that the legislator subsequently may be able to catch." *Id.*

This presumption was discussed again in *United States v. Bowman*. There, the Court considered the defendants' objection to an indictment charging them with conspiracy to present false claims to the Shipping Board Emergency Fleet Corporation, an entity owned by the United States. 260 U.S. 94, 95-96 (1922). The defendants argued that because their scheme unfolded on the high seas, it was outside the scope of the relevant U.S. statute, which did not explicitly impose liability for extraterritorial conduct. *Id.* at 96-97. The Court described the issue as "a

question of statutory construction," *id.* at 97, and explained that U.S. statutes were presumed only to punish crimes committed in the United States:

> Crimes against private individuals or their property . . . must of course be committed within the territorial jurisdiction of the government where it may properly exercise it. If punishment of them is to be extended to include those committed outside of the strict territorial jurisdiction, it is natural for Congress to say so in the statute, and failure to do so will negative the purpose of Congress in this regard.

Id. at 98. Thus, from its beginnings in *American Banana* and *Bowman*, the presumption against extraterritoriality reflected the common-sense insight that U.S. statutes only regulate conduct that occurs in the United States absent a Congressional intent to punish acts that occur abroad.

This Court again examined the presumption against extraterritoriality in *Foley Bros., Inc. v. Filardo*, 336 U.S. 281, 284-85 (1949). *Foley Brothers* concerned the Eight Hour Law, which provided that "[e]very contract" to which the United States is a party must allow for overtime pay to laborers who work more than eight hours in a day. *Id.* at 282-83. The question presented was whether the reference to "[e]very contract" included contracting projects performed in foreign countries (the plaintiff had served as a cook for a public works project in Iraq and Iran). *Id.* at 283-84. This Court observed that Congress had the *power* to give the law such a scope, but explained that "[t]he canon of construction which teaches that legislation of Congress,

unless a contrary intent appears, is meant to apply only within the territorial jurisdiction of the United States . . . is a valid approach whereby unexpressed congressional intent may be ascertained." *Id.* at 284-85. This "canon," said the Court, "is based on the assumption that Congress is primarily concerned with domestic conditions." *Id.* Because the Eight Hour Law contained "no language . . . that gives any indication of a congressional purpose to extend its coverage beyond places over which the United States has sovereignty or has some measure of legislative control," this Court determined that it applied only to contracts for domestic projects. *Id.* at 285; *see also id.* at 286 (expressing skepticism "that Congress intended to regulate the working hours of a citizen of Iran who chanced to be employed on a public work of the United States in that foreign land").

In each of these early cases, this Court used the presumption against extraterritorial application of law to infer the intended geographic scope of the regulation at issue. The presumption helped answer the question of whether a given statute governed conduct or transactions that occur outside of the United States.

This Court's more recent cases uniformly apply the presumption in the same manner. *See, e.g., RJR Nabisco, Inc. v. European Cmty.*, 136 S. Ct. 2090, 2096, 2100-09 (2016) (presumption applied to determine "whether RICO applies extraterritorially—that is, to events occurring and injuries suffered outside the United States"); *Kiobel*, 133 S.Ct. at 1664 (presumption applied to determine "whether a claim [under the Alien Tort Statute] may reach conduct occurring in the territory of a foreign sovereign"); *Morrison v. Nat'l Austl. Bank Ltd.*, 561 U.S. 247, 250-51

(2010) (presumption applied to determine "whether § 10(b) of the Securities Exchange Act of 1934 provides a cause of action . . . for misconduct in connection with securities traded on foreign exchanges"); *Sale v. Haitian Ctrs. Council, Inc.*, 509 U.S. 155, 159, 173-74 (1993) (presumption applied to determine whether asylum protection of Immigration and Nationality Act "applies to action taken by the Coast Guard on the high seas"); *Smith v. United States*, 507 U.S. 197, 198, 203-04 (1993) (presumption applied to determine whether FTCA waiver of sovereign immunity "applies to tortious acts or omissions occurring in Antarctica"); *EEOC v. Arabian Am. Oil Co.*, 499 U.S. 244, 246, 248-49 (1991) (presumption applied to determine "whether Title VII applies extraterritorially to regulate the employment practices of United States employers who employ United States citizens abroad").

Thus, when this Court has invoked the presumption against extraterritoriality, it has consistently done so when determining the applicability of legislation to conduct and transactions that occur abroad. It has not treated the presumption as a means for minimizing the extraterritorial *effect* of legislation or its implications for U.S. trade.

B. *Microsoft* Uses the Presumption in Accordance with This Court's Settled Precedent.

Relying on this Court's decision in *Microsoft*, LifeTech argues that the Federal Circuit's flexible interpretation of "substantial portion" is "directly contrary to this Court's explicit instruction that § 271(f) should be narrowly interpreted in light of the presumption against extraterritoriality." Pet. Br. at 4. LifeTech contends that,

regardless of the question of statutory construction, § 271(f)(1) must be interpreted so as to minimize its impact on foreign economies and U.S. export trade. *Id.*

First, as discussed above, it is not correct that a bright-line numerical test is somehow narrower than a flexible test for "substantial portion" that considers the importance of any particular component. Indeed, a numerical test risks expanding liability under § 271(f)(1) precisely by *not* considering the importance of the relevant domestic conduct, namely the exported components, to the patented invention. *See supra* Section I.B.

More fundamentally, *Microsoft*, like this Court's prior century of decisions discussing the presumption against extraterritoriality, did not require courts to construe U.S. laws narrowly regardless of the question of statutory construction. Nor did it transform the presumption into a vehicle for courts to minimize the *impact* of laws on foreign trade. Rather, the *Microsoft* Court used the presumption in accordance with this Court's settled precedent to conclude that the statute did not regulate foreign activity, namely the foreign-made components. It held that there was no intent to create liability for exporting instructions to make components abroad when § 271(f) expressly requires supply of the components themselves.

In *Microsoft*, the defendant software maker (Microsoft) conceded that it had dispatched master copies of its Windows operating system to foreign computer manufacturers and that by installing Windows onto their computers, the manufacturers created devices that in the United States would have infringed AT&T's patent. 550 U.S. at 441-42, 445-47. This Court confronted

two interpretive questions about the application of § 271(f)[5] to Microsoft's conduct: first, whether Windows was a "component" under § 271(f), and second, whether Microsoft had "supplied" a component of the foreign-made computers "from the United States." *Id.* at 447.

As to the first question, this Court found that "software detached from an activating medium" is "uncombinable" in the context of a computer. *Id.* at 449. This Court concluded that since the statute contemplates "'components' [that are] amenable to 'combination,'" *id.*, Windows can only be a "component" of a computer when reduced to a physical, deliverable copy capable of being "performed by a computer," *id.* at 451-52. It held that Windows "in the abstract" is not a "component" of a computer but rather a set of "instructions" to which § 271(f) does not apply. *Id.*

This holding informed the Court's resolution of the second question. Microsoft had not "supplied" the individual copies of Windows that were installed on the foreign-made computers. *Id.* at 452. "Indeed, those copies did not exist until they were generated by third parties outside the United States." *Id.* at 453. Accordingly, the software "components" of the offending devices were neither "supplie[d]" by Microsoft nor "supplie[d] . . . from the United States." *Id.* at 453-54. Microsoft had exported only the instructions for components that were then generated abroad.

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5. The decision simply refers to Section 271(f) since the distinctions between the two paragraphs of Section 271(f) were not "outcome determinative." *See id.* at 447 n.7.

The Court explained that the presumption against extraterritorial application of U.S. law reinforced its conclusion "that Microsoft's conduct falls outside § 271(f)'s compass." *See id.* at 454. This was for a simple reason: the components were generated and combined abroad. None was made in or supplied from the United States. A different interpretation of "supply," *i.e.*, one that encompassed supplying instructions from the United States rather than the components themselves, would have swept into § 271(f)'s purview the acts of duplication and installation that took place abroad. Instead, this Court concluded that "***foreign law alone***, not United States law, ***currently governs the manufacture and sale of components of patented inventions in foreign countries***." *Id.* at 456 (emphasis added).

In *Microsoft*, the presumption against extraterritoriality supported the construction of "supply" in § 271(f) as not encompassing supply of components generated outside the United States because Congress ordinarily does not intend to regulate conduct that occurs in the territory of another sovereign and the express language of § 271(f) requires supply of some components from the United States. The Court did not use the presumption as a mandate to weigh § 271(f)'s economic externalities, such as effects on trade policy, or to interpret § 271(f) to minimize those effects.

In contrast to *Microsoft*, the question presented here does not implicate the location of regulated conduct, but rather the amount (and nature) of *domestic* conduct necessary to trigger liability under the patent law. Pet. Br. at 27 ("[T]he question in this case asks *how much* domestic conduct is necessary to trigger the prospect

of U.S. patent liability. . . .") (emphasis in original). The presumption against extraterritoriality therefore has no application in this case. Under either the Federal Circuit's flexible test for "substantial portion," which considers the importance of the supplied component, or a numerical test, which excludes supply of a single component from liability, the interpretive question concerns only domestic conduct.

C. The Presumption Does Not Provide Authority to Set Economic Policy.

LifeTech attempts to buttress its numerical construction of the "substantial portion" requirement of § 271(f)(1) with trade policy arguments. These economic arguments are inapposite for the reasons discussed above and also incorrect because a numerical test only encourages gamesmanship and ignores Congress's anti-evasive purpose in enacting § 271(f)(1). Moreover, they have no place here for two reasons. First, the presumption against extraterritoriality does not permit courts to interpret patent laws so as to blunt the impact of Congress's judgments about economic policy and its consequences for innovation. Second, and more basically, "[i]t is not [this Court's] right to pronounce economic views." *Sec'y of Agric. v. Cent. Roig Ref. Co.*, 338 U.S. 604, 606 n.1 (1950).

LifeTech asserts that "[t]he point of the presumption against extraterritorial application of U.S. patent law is to prevent U.S. law from intruding on the decisions of foreign governments regarding their consumers' access to useful products." Pet. Br. at 29. It warns that a flexible test that allows consideration of the importance of components to the invention "will inhibit the access

of foreign markets to Life Technologies' kits, or, at a minimum, dramatically increase the cost of such access" and will give foreign companies "a strong incentive not to use U.S.-manufactured components." *Id.* Meanwhile, the Government states that the Court's decision should take into account § 271(f)(1)'s potential to "prevent[] citizens of foreign countries from importing staple articles of commerce and combining them with components manufactured in their own countries." U.S. Br. at 30.

There is no question that § 271(f)(1) potentially affects international commerce. But the implementation of a particular economic view has never been the province of the presumption against extraterritoriality. As discussed above, the presumption merely provides guidance as to the geographic scope of regulated conduct. *See supra* Section II.A.

More fundamentally, the use of the presumption in this case would undermine its purpose of "preserving a stable background against which Congress can legislate with predictable effects." *Morrison*, 561 U.S. at 261. If the mere prospect of a statute having economic externalities were enough to trigger the presumption, almost every interpretive question would be subject to competing arguments about and judicial insight into its "extraterritorial effect." Indeed, if courts felt free to weigh the extraterritorial *consequences* of a proposed statutory construction in any case, it would invite, rather than discourage, "unwarranted judicial interference in the conduct of foreign policy." *Kiobel*, 133 S. Ct. at 1664.

Further, as a general matter, this Court has been justifiably loath to incorporate economic judgments in its

decisions. In *Kimble v. Marvel Entm't, LLC*, for example, this Court recently explained that in the event of an economic misjudgment, "Congress is the right entity to fix it." 135 S. Ct. 2401, 2413 (2015). This Court elaborated that "by contrast with the Sherman Act, the patent laws do not turn over exceptional law-shaping authority [based on economic policy] to the courts." *Id. See also Am. Commercial Lines, Inc. v. Louisville & Nashville R.R. Co.*, 392 U.S. 571, 590 (1968) ("The courts are ill-qualified indeed to make the kind of basic judgments about economic policy sought by the railroads here."); *Central Roig*, 338 U.S. at 606 n.1 ("It is not our right to pronounce economic views; we are confined to passing on the right of the Congress . . . to act on the basis of entertainable economic judgments.").

Similarly, this Court has explained that "the choice of what patent policy should be lies first and foremost with Congress." *Kimble*, 135 S. Ct. at 2414. "Congress, not this Court, is [the] proper audience," *id.*, for theories as to why § 271(f)(1) harms our nation's economy and should be limited to avoid liability for inducing infringement if only one component of a patented invention is exported.

In sum, neither the presumption against extraterritoriality nor economic arguments provide any basis to adopt a numerical test for liability under § 271(f)(1).

CONCLUSION

For the foregoing reasons, this Court should affirm the ruling below.

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Petitioners,

v.

PROMEGA CORPORATION,

Respondent.

On Writ Of Certiorari To The United States Court Of Appeals For The Federal Circuit

BRIEF OF *AMICUS CURIAE* WISCONSIN ALUMNI RESEARCH FOUNDATION IN SUPPORT OF RESPONDENT

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REGULATIONS

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I. STATEMENT OF INTEREST[1]

Amicus Curiae Wisconsin Alumni Research Foundation ("WARF") was founded in 1925 as a nonprofit entity to promote, encourage, and aid scientific investigation and research at the University of Wisconsin-Madison ("UW-Madison"). One of WARF's earliest accomplishments was to patent a Vitamin D discovery that eventually eliminated the childhood disease of rickets worldwide. Other significant advancements from UW-Madison and WARF include lifesaving organ transplant technology, faster computer processors, and Coumadin, the revolutionary treatment for cardiovascular disease.

WARF's portfolio includes more than 1,600 patented technologies covering a wide range of categories including pharmaceuticals, agriculture, food products, medical devices, pluripotent stem cells, clean technology, information technology and semiconductors. WARF has returned more than $ 2.3 billion in licensing revenue, adjusted for inflation, to UW-Madison and the Morgridge Institute of Research to fund research programs and initiatives.

In recognition of WARF's contributions to science and technology, WARF was awarded the National

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[1] The parties have consented to the filing of this brief in global consents to the filing of amicus briefs in support of any party. In accordance with Rule 37.6, no counsel for a party authored this brief in whole or in part, and no person or entity, other than WARF or its counsel, has made any monetary contributions to the preparation or submission of this brief.

Medal of Technology in 2005—the nation's highest honor for technology innovation.

II. INTRODUCTION AND SUMMARY OF THE ARGUMENT

The Court should preserve the strength of the U.S. patent system. University research is critical to innovation in this country. And strong U.S. patents are critical to incentivizing investments in research. Any change in patent law that reduces the perceived ability to protect investments in intellectual property, including any change in the Federal Circuit's interpretation of 35 U.S.C. § 271(f)(1), will negatively affect university research and the technology transfer sector.

At the time that Congress enacted § 271(f), Congress was attempting to stimulate innovation and strengthen patent law. This is apparent from the 1980 enactment of the Bayh-Dole Act, the highly successful legislation that gave rise to the technology transfer sector in American universities. Only a short time later, in 1984, Congress amended the Bayh-Dole Act and enacted § 271(f).

The cause of action in § 271(f) is already narrow. The perceived negative effects of the Federal Circuit's ruling posited by others are unlikely to occur because there are adequate safeguards in place to ensure that the provision does not exceed its intended scope.

The Court should affirm the Federal Circuit decision; reversal is not appropriate or necessary at this time, and the Federal Circuit and the jury were both correct that *Taq* polymerase is a qualitatively substantial component in the invention at issue.

III. ARGUMENT

A. Strong U.S. patents incentivize innovation.

A correlation exists between robust intellectual property protection and positive economic benefits, such as increased investment in research and development, high-value job growth, and increased innovative output. *See* Global Intellectual Property Center, U.S. Chamber of Commerce, *Unlimited Potential* 9-10 (3d ed. 2015). University and other federally funded research play an important role in innovation in this country, often providing the groundwork for start-up businesses and significant technological advances. Successful commercialization and application of the work resulting from this research is bolstered by protecting the intellectual property involved. Strong patent law helps American businesses prosper.

1. The 1980 Bayh-Dole Act granted patent ownership and license rights to universities to encourage innovation in this country.

University research plays a major role in the advancement of technology in the United States ("U.S."). Universities are the birthplace of new knowledge, discoveries, and technical know-how. Beyond basic research, new products, equipment, and instrumentation are also designed and tested in academic settings. Human capital embodied in students trained by American universities also directly benefits the business sector when those individuals become employees and business owners.

In 1980, Congress itself confirmed the importance of university research when it enacted the federal

Bayh-Dole Act. *See* 35 U.S.C. § 200-212; 37 C.F.R. Part 401. This landmark legislation gave universities the right to own and license patents resulting from federally funded research. The Act thus spurred significant transfer of technology and scientific knowledge from universities to businesses.

The reason that Congress enacted the Bayh-Dole Act was not to enrich universities, but to attempt to stimulate the pace of innovation and the American economy, which had slowed over the 1960s and 70s. Ashley J. Stevens, *The Enactment of Bayh-Dole*, 29 J. Tech. Transfer 93 (2004).

The Bayh-Dole Act has been a resounding success. Prior to the Bayh-Dole Act, when the federal government owned inventions resulting from federally funded research, fewer than 5% of the 28,000 federally owned patents were licensed to industry. Valerie Landrio McDevitt et al., *More than Money: The Exponential Impact of Academic Technology Transfer*, 16 Tech. Innov. 75 (2014). According to the 2014 AUTM Licensing Survey, conducted by the Association of University Technology Managers ("AUTM"), technology transfer activities from institutions including universities, hospitals and research institutes generated $28 billion in net product sales, 914 new start-up companies, and 965 new commercial products in that year. Ass'n of Univ. Tech. Managers (AUTM), *U.S. Licensing Activity Survey: FY 2014* 8, 10 (2014). Respondents to the AUTM survey also reported 6,363 new U.S. patents issued and 5,435 new licenses executed in 2014. *Id.* at 8. The survey concludes that "[c]ompanies spun out of research universities have a far greater success rate than

other companies, creating good jobs and spurring economic activity." *Id.* at 10. Indeed, 4,688 of companies born of technology transfer activities were still in business at the end of 2014. *Id.*

WARF is a leader in technology transfer and itself manages more than 700 pending and 1,850 issued U.S. patents on UW-Madison technologies, as well as over 2,000 foreign equivalents. WARF offers more than 2,000 technologies for licensing, and maintains more than 560 active commercial license agreements. WARF's most important patents include the blood anticoagulant Warfarin, a coating process making pills easier to swallow, treatments for osteoporosis and cancer, magnetic resonance techniques, and a discovery known as the "Wisconsin Solution" that prolongs the use of transplant organs. WARF's investment in research and technology has led to the creation of over 80 start-up companies.

The many benefits of university research are significant and quantifiable. It has been estimated that, assuming a 2% royalty and no product substitution effects, over a 15-year period from 1996-2010, university licensing agreements based on product sales contributed at least $70.5 billion and as much as $277.6 billion (2005 dollars) to the U.S. gross domestic product. David Roessner et al., *The Economic Impact of Licensed Commercialized Inventions Originating in University Research,* 42 Res. Pol'y 23, 23 (2013). Assuming moderately conservative royalties of 5%, such agreements would have contributed more than $122.2 billion to the gross domestic product. *Id.*

It follows that patents are critical for securing investments in university research and for developing and licensing university inventions. Private companies investing in and sponsoring research at universities want to protect the results of those research and development activities. Similarly, licensees of federally funded research rely on the patent system for stability in their rights. Strong U.S. patents are essential to the efforts of universities and institutions to transfer technology and launch start-up companies. Indeed, the success of the Bayh-Dole Act depends on a strong patent system. Any change in law that reduces the perceived ability of a patent owner or licensee to protect the results of research and development sponsored in universities will erode the willingness of private companies to seek a patent license or to sponsor research at a university.

2. In 1984, Congress enacted 35 U.S.C. § 271(f) to further strong patent rights.

The timing of the enactment of 35 U.S.C. § 271(f) is significant. In the 1980s, Congress intended to strengthen patent rights. In 1984, the year in which Congress enacted § 271(f)(1), (see Patent Law Amendment Act of 1984, Pub. L. No. 98-622, § 101, 98 Stat. 3383), Congress also amended the Bayh-Dole Act. During this time when Congress was strengthening patent rights, it could not have intended § 271(f) to be a trivial provision.

The specific reason that Congress enacted § 271(f) was to "prevent copiers from avoiding U.S. patents by supplying components of a patented product in this country so that the assembly of the

components may be completed abroad." 130 Cong. Rec. 28,069 (1984) (statement of Rep. Kastenmeier). The provision was, in part, a response to this Court's decision in *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518 (1972). *Id.*

The legislative history makes clear that the 1984 Congress sought strong patent law. The specific goal of the subcommittee sponsoring new § 271(f) was to "secure for the owners of intellectual property, including patent holders, a workable, efficient, and vigorous set of laws to protect their creations." 130 Cong. Rec. 28,069. Strong patent law is the way to implement that goal:

> It is only through implementation of the constitutional mandate of encouraging the sciences and the useful arts that we will be able to spur the inventive spirit that has made our country a world leader. Indeed, our ability to foster innovation is a central element to our national security, for without technological and scientific developments, we could not maintain our current standard of living or hope for the diminution of unemployment caused by foreign competition.

Id.

While the 1984 bill resulting in § 271(f) was "likely to be seen by most observers as mundane or technical in nature," those types of amendments are still important. *Id.* For "without enactment of these housekeeping-oriented measures, the patent system would not be responsive to the challenges of a

changing world and the public would not benefit from the release of creative genius." *Id.*

The petitioners (hereinafter "LifeTech"), as well as other amici curiae, argue that § 271(f) cannot cover the supply of a single component because Congress was only trying to address the loophole at issue in *Deepsouth Packing Co.* However, Congress's intent was clear, to allow "the patent system [to] be responsive to the challenges of a *changing* world." *Id.* (emphasis added). Therefore, Congress was not only attempting to close the loophole directly at issue in *Deepsouth Packing Co.*, but also to address other similar loopholes that may be raised in the future. Permitting liability where a party only supplies a single component furthers that goal.

In 1984, Congress also made amendments to the Bayh-Dole Act. *See* Pub. L. No. 98-620, § 501, 98 Stat. 3335, 3364-68 (1984). While these amendments were relatively minor, they did, among other things, eliminate prior restrictions on the terms of exclusive patent licenses. *Id.*

Based on these Congressional Acts, it is clear that, in the 1980s, Congress intended to promote strong patent law, including when it enacted § 271(f). The legislative history of § 271(f)(1) is entirely consistent with the textual statutory language and the Federal Circuit's decision. The 35 years since the passage of the Bayh-Dole Act have demonstrated that the goals addressed by these 1980s actions are still sound. And, the statistics discussed above demonstrate that the legislation has worked to encourage the transfer of technology from

universities to the business sector. There is, therefore, no need to reverse.

3. Patent law would be weakened, and innovation would be negatively affected, if § 271(f)(1) is construed narrowly.

Strong patent laws promote innovation, which facilitates economic growth. It is a virtuous circle with positive results. Strong patents incentivize companies to take licenses from patent owners, instead of taking the risks of infringement. Licenses result in royalty revenue to patent owners. Greater potential royalty revenue incentivizes inventors to invent and publicly disclose their inventions through the patent process.

When universities own patents, the revenue generated from licenses is directly reinvested in more research, improved facilities, and attracting talent to American universities. This leads to additional technological advancement and more technology available for licensing to the business sector.

Even specific statutory sub-parts, such as § 271(f)(1), are important to a regime of strong patent laws. Patent law would be weakened if § 271(f)(1) is construed to necessarily exclude parties that supply a single component from the U.S. and actively induce the combination of the component outside of the U.S. in a manner that would infringe if done within the country. For example, parties who supply those components would no longer take a license.

The perception of a weakened patent system may also encourage infringers. This would lead to less

licensing and less revenue for scientific investigation and research. An overly narrow interpretation of § 271(f)(1) would be inconsistent with the clear legislative intent of the 1984 Congress that enacted the provision.

B. The Federal Circuit's ruling should stand because the safeguards against overreach already in place for § 271(f)(1) are sufficient.

The Court should affirm the Federal Circuit's interpretation of § 271(f)(1) because there are already safeguards in place that prevent § 271(f)(1) from having an overbroad scope.

1. The facts of this case do not illuminate the safeguards.

Liability under § 271(f)(1) is relatively uncommon. And the provision already has meaningful safeguards against the provision having too broad a scope. But as explained below, the case at hand has unique facts that cause the discussion of these safeguards to fade to the background.

Promega Corporation is the exclusive licensee of the Tautz patent at issue, U.S. Patent No. RE 37,984. Pet. App. 5a. Claim 42 of the Tautz patent is the only one at issue now, and it covers a kit for analyzing DNA samples, where the kit comprises five components: a primer mix, a polymerizing enzyme, nucleotides, a buffer solution, and control DNA. *Id.* at 7a-8a. The polymerizing enzyme that LifeTech used was *Taq* polymerase. *Id.*

Promega asserted the Tautz patent against LifeTech. *Id.* at 9a. LifeTech manufactured the *Taq* polymerase required by claim 42 in the U.S., and

then shipped the component to its facility in the United Kingdom ("UK"). *Id.* at 8a. The UK facility then assembled the domestic component with four other components to make the kit which would infringe the Tautz patent if the kit were assembled in the U.S. *Id.* at 22a.

One unique aspect of this case relates to the inducement aspect of § 271(f)(1). The district court held that Promega waived its argument that the LifeTech entity shipping the component from the U.S. was a separate entity from the LifeTech facility in the UK that assembled the patented product. Opp'n Br. 15 n.5. This created a situation where LifeTech was deemed to be inducing itself under § 271(f)(1). Pet. App. 24a. This is unusual because the vast majority of businesses with international scope have different operating entities in different countries or regions. But in this case, "whether LifeTech exhibited the necessary knowledge and intent to combine the *Taq* polymerase with the remaining components of its genetic testing kit 'in a manner that would infringe' the Tautz patent if that combination occurred within the U.S. ***is not contested and presumed.***" *Id.* at 34a. (emphasis added). In most cases, there would be separate entities involved, and inducement would not be uncontested or presumed.

LifeTech, as well as other amici curiae, argue that under the Federal Circuit's decision, innocent domestic manufacturers shipping a component abroad are at a heightened risk for infringement. Pet. Br. 5, 38. This is not so; nor is it an accurate extrapolation of the Federal Circuit's holding. LifeTech was not an innocent domestic

manufacturer. LifeTech intended to and succeeded in inducing itself to combine the supplied component with other components in a manner that would infringe a patent if combined in the U.S.

Section 271(f)(1) is not intended to—and did not in this case—subject an innocent domestic component supplier to liability. To protect innocent domestic manufacturers shipping a component abroad, § 271(f)(1) contains an adequate safeguard because no liability attaches unless the requisite intent is found.

An additional safeguard on the scope of § 271(f)(1) is that the component or component supplied must constitute "a substantial portion of the components of the patented invention." This is a highly fact-specific inquiry; in this case, it was essentially admitted because "LifeTech's own witness testified that the *Taq* polymerase is one of the 'main' and 'major' components of the accused kits." Pet. App. 34a. The Federal Circuit even emphasized the fact-specific nature of its conclusion explaining that it was "based on the facts of this particular case." *Id.* at 28a.

2. Inducement is a crucial safeguard on the scope of infringement under § 271(f)(1).

The cause of action under § 271(f)(1) is already narrow. Unlike § 271(a) concerning traditional direct infringement, § 271(f)(1) is not a strict liability tort. Section 271(f)(1) requires active inducement:

> Whoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented

> invention, where such components are uncombined in whole or in part, in such manner as to *actively induce* the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

35 U.S.C. § 271(f)(1) (emphasis added).

Under § 271(f)(1), "[a] finding of inducement requires both an underlying instance of direct infringement and a requisite showing of intent." *Liquid Dynamics Corp. v. Vaughan Co.*, 449 F.3d 1209, 1222 (Fed. Cir. 2006) (citation omitted).

Like § 271(f)(1), § 271(b) requires inducement. Section 271(f)(1) differs from 271(b) in what conduct must be induced. Section 271(f)(1) requires that the conduct being induced is "the combination of such components," while § 271(b) requires that the conduct being induced is "infringement of a patent." 35 U.S.C. §§ 271(f)(1), 271(b).

In the context of § 271(b), inducement has been described as that which "'cause[s], urge[s], encourage[s], or aid[s]' the infringing conduct." *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1308 (Fed. Cir. 2012), *rev'd on other grounds*, 572 U.S. __, 134 S. Ct. 2111 (2014), quoting *Arris Grp., Inc. v. British Telecomms. PLC*, 639 F.3d 1368, 1379 n.13 (Fed. Cir. 2011). "Accordingly, inducement requires evidence of culpable conduct, directed to encouraging another's infringement, not merely that the inducer had knowledge of the direct

infringer's activities." *DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1306 (Fed. Cir. 2006).

In the context of § 271(f)(1), a plaintiff would need to prove that the accused domestic manufacturer actively induced the combination of such components. Supplying a component to a third party abroad, without more, is not inducement under § 271(f)(1). In such a case, the domestic manufacturer would be the inducee, not the inducer, and no liability would attach.

The petitioners suggest that the domestic manufacturer would be liable if it were put on notice of the patent. Pet. Reply Br. 10. Putting aside whether a knowledge requirement even exists under § 271(f)(1)[2], it is certainly true that "[a] patentee may prove intent through circumstantial evidence," which can include knowledge of the patent. *Liquid Dynamics Corp.*, 449 F.3d at 1222 (quoting *Fuji Photo Film Co. v. Jazz Photo Corp.*, 394 F.3d 1368, 1377 (Fed. Cir. 2005)).

However, even if a domestic manufacturer was put on notice of a patent, for example by correspondence from the patent owner, and supplied a component that was combined abroad in a manner

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[2] "We need not reach the question whether the district court applied the correct standard under § 271(f)(1)," namely that the defendant knew the intended combination would be infringing if done domestically, because "[t]he verdict was clear that the jury found liability under § 271(f)(2) for all asserted claims." *WesternGeco L.L.C. v. ION Geophysical Corp.*, 791 F.3d 1340, 1348 (Fed. Cir. 2015), *judgment vacated on other grounds*, 136 S. Ct. 2486 (2016).

that would infringe the patent if combined in the U.S., this would still be insufficient to raise to the level of intent necessary to prove infringement under § 271(f)(1). *See id.* The accused manufacturer would have had to induce the combination abroad for liability to attach.

If the domestic manufacturer went further, for example, by providing instructions with the component identifying the other components needed and how to combine them, then the domestic manufacturer would come closer to having the requisite intent and may be liable under § 271(f)(1). Even under these circumstances, further information would be needed to determine whether liability would attach based on the specific facts—including, whether the component at issue was a "substantial portion of the components" of the invention.

In the instant case, the domestic manufacturer and the foreign party combining the components were deemed to be the same. And it is undisputed that LifeTech had both knowledge of the patent and the requisite intent to combine the supplied component with other components in a manner that would infringe the asserted patent if combined in the U.S. Pet. App. 34a. In most cases, however, inducement would not be "presumed," and would serve as an important limitation on the scope of § 271(f)(1).

3. The requirement that the supplied component be a "substantial portion" protects against § 271(f)(1) having overbroad scope.

The second safeguard on the scope of § 271(f)(1) is that a patent owner must prove that the component or components supplied abroad constitute a "substantial portion of a patented invention." 35 U.S.C. § 271(f)(1). In some cases, a single component may not be enough, but in this case, it is. The Wisconsin jury concluded that there was liability under § 271(f)(1), and the Federal Circuit held that there was sufficient record evidence to support a finding that *Taq* polymerase is a "substantial portion" of the invention. *See* Pet. App. 28a. These findings were appropriate.

Taq polymerase is profoundly important, both in the context of this case and in the field in general. *Taq* polymerase is the key ingredient in the polymerase chain reaction (PCR) method used to amplify DNA segments for further use and study. PCR is widely used in molecular biology. Indeed, *Taq* polymerase made possible many important discoveries and technological advancements including, sequencing the human genome, life saving vaccines and sophisticated forensic science. The 1993 Nobel Prize in Chemistry was awarded to Kary B. Mullis and Michael Smith for the invention of the PCR method. *The Nobel Prize in Chemistry 1993*, http://www.nobelprize.org/nobel_prizes/chemistry/laureates/1993/ (last visited Oct. 25, 2016). In 1989, Science Magazine named *Taq* polymerase its first "Molecule of the Year." Daniel E. Koshland, Jr., *The Molecule of the Year*, 246 Science 1541 (1989). And,

in 2013, the U.S. government gave the Golden Goose award to Thomas Brock and Hudson Freeze who discovered the *Thermus aquaticus* bacteria from which *Taq* polymerase originates. The Golden Goose Award, 2013: Thermus Aquaticus, http://www.goldengooseaward.org/awardees/c7vafs3ntt7jzovlxo68997rq5rxok (last visited Oct. 25, 2016).

The Court should affirm the Federal Circuit's conclusion that *Taq* polymerase was a substantial portion of the invention in the Tautz patent. There is no reason why a single component cannot be an important or essential part of a whole, as it is in other contexts. This is particularly true for a molecule as significant as *Taq* polymerase.

C. Numerous recent changes in patent law have provided additional protection against patents and claims of dubious merit.

An independent reason that the Court should not disturb the Federal Circuit's ruling is that recent changes to patent law have adjusted existing safeguards in the U.S. patent system. The patent system contains numerous delicate balances. While adjustments are necessary in a dynamic society, they should be made with care. It is too soon to know how these recent changes have affected the complex equilibrium of patent law.

For example, in 2006, this Court held that the traditional four-factor test that governs the award of permanent injunctive relief must be equally applied in patent cases. *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006). No longer are patent owners awarded injunctions based solely on a finding of infringement; injunctions are harder to obtain.

Post grant review procedures became available in 2012 with the enactment of the America Invents Act. Pub. L. No. 112-29, 125 Stat. 284 (2011). Parties defending against patents of dubious merit now have more expedient and cost effective alternatives to litigation to dispose of such threats.

That same year, in *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. __, 132 S. Ct. 1289 (2012), this Court set a two part test for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts. Two years later, this Court provided further guidance to that two part test in *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. __, 134 S. Ct. 2347 (2014). The United States Patent and Trademark Office and courts now are better equipped to dispose of over-broad patents covering abstract ideas.

Accused infringers are well equipped to protect themselves from claims and patents of dubious merit. But all of these changes have affected the delicate balance between encouraging innovation and stifling competition. *See Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 146 (1989). It is too soon to tell whether the scales are balanced or have been overcorrected. There is nothing presented in LifeTech's arguments or the facts of this case that warrant further adjustment of this balance.

IV. CONCLUSION

WARF respectfully submits that the Federal Circuit's decision should remain undisturbed. 35

U.S.C. § 271(f)(1) already includes adequate safeguards and no alteration in the law construing the provision is necessary at this time of significant change in American patent law.

Respectfully submitted,

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